

# Mechanical Engineering

The Journal of the American Society  
of Mechanical Engineers

## Index to Volume 47

January to December  
1925

Published by  
The American Society of Mechanical Engineers  
29 West Thirty-ninth Street, New York

Abi

Abi

Abi

Aca

Acc

Acc

Act

Act

Ada

Adi

Aer

Aer

Aer

Aer

Aer

Aer

Aer

Air

Air

Air

Air

Air

Air

Air

Air

Air

Air

Air

Air

Engin.  
Direct

# Index to Mechanical Engineering

Volume 47, January to December, 1925

D denotes discussion; C, correspondence

## A

- ABBOTT, W. L. Uniflow and compound duoflow engines (D)..... 192
- Abbreviations and symbols committee organized. 940
- Abrasion, surface, and localized corrosion..... 351
- Academy of Sciences, engineers elected to..... 520
- Accumulator, Ruths steam..... 619
- steam..... 130, 295
- ACKERMAN, DONALD E..... 212
- Activated-sludge sewage disposal plant at Milwaukee..... 837
- Adams, Edward Dean, testimonial to..... 382
- ADLER, A. A. Engineering standards (D)..... 559
- Aerial surveying equipment—helicopters—production airplanes of metal..... 266
- surveying, equipment used for..... 170
- surveying, equipment used for (C)..... 303, 364
- Aerodynamo wind mill..... 580
- Aeronautic research to be undertaken by American Engineering Council..... 518
- Aeronautical engineering at McCook Field..... 790
- Aeronautics school at New York University, new..... 689
- Flettner rotor-ship principles in..... 125
- National Advisory Committee for, fuel-injection-engine research by..... 1140
- progress in, as related to mechanical engineering..... 1133
- safety code for, note on..... 1166
- Aeroplane*, The, quotation from..... 1149
- AGNEW, P. G. Presenting approved American standards to American manufacturers..... 305
- Air and ammonia compressors, flywheel..... 1158
- Air brakes..... 209, 934
- cooled cylinders, design of..... 647
- cooled-engine development..... 791
- "greased"..... 48
- mail, engineering aspects of the, editorial..... 1170
- mail service starts, Chicago-New York..... 688
- mail service, the United States..... 148
- moist, chart for determining the weight of..... 492
- policy, American..... 599
- preheaters..... 175
- service, General Patrick's recommendation..... 667
- temperatures of evaporation of water into..... 327
- transport service, beginning of, editorial..... 777
- transportation, a survey of..... 1150
- waves through pipes, transmission of..... 1150
- Aircraft-bombing accuracy..... 1155
- engine industry, achievements of American engines..... 349, 502
- engines, altitude and power..... 1149
- in British Army maneuvers of September, 1925..... 1149
- power plants for U. S. Navy..... 783
- war, production of..... 500
- Airplane accident, Croydon..... 349
- all-metal, industry in France..... 849
- anti-stall gear, Savage-Bramson..... 849
- Beardmore W. B.-XXVI..... 927
- ground-strafting..... 1149
- industry, all-metal, in France..... 849
- of metal, production,—aerial surveying equipment—helicopters..... 266
- wartime design..... 349
- Airscrew, variable-pitch, Pistolesi (propeller)..... 500
- Airship and its place in commerce..... 961
- semi-rigid, RS-1, clutches and transmission for..... 751
- AITON, J. ARTHUR..... 357
- ALBERT, C. D. System of limits for different kinds of fits..... 901
- Alcohol, power, in England..... 501
- ALEXANDER, MAGNUS W. Industry's interest in industrial training..... 94
- ALFORD, L. P. Review of book on the German Museum of Engineering, Science and Industry..... 954
- Allegheny Steam Heating Company..... 296
- ALLEN, CECIL J..... 855
- ALLEN, J. W. Generator problems due to crank-shaft vibrations..... 793
- ALLNER, F. A. The parallel operation of hydro and steam plants..... 727
- Alloy, Lantal..... 44
- Alloys, aluminum and its light..... 433
- diamond-hard..... 748
- iron, physico-chemical properties of..... 339
- of diamond hardness..... 748
- scleron..... 204
- Alluvial matter, automatic eliminators..... 928
- Alpha-beta brass as affected by grain size, corrosion of..... 643
- Alternator, Hunt self-paralleling..... 748
- Altoona, A.S.M.E. to meet at..... 779
- distinctive railroad meeting at..... 951
- Aluminum-alloy castings..... 1151
- and its light alloys..... 433
- Alvis racer, front-drive, supercharged..... 507
- American air policy..... 599
- aircraft-engine industry, achievements of..... 790
- petroleum situation, engineers and the..... 5
- transportation..... 871
- American Engineering Council, aeronautic research to be undertaken by..... 518
- American Engineering Standards Committee, cooperative relations between and sponsors..... 769
- December, 1923, meeting of the..... 72
- elects officers for 1925..... 142
- financial statement..... 940
- preferred numbers committee, new activities..... 222
- American Society for Testing Materials establishes medal for research..... 520
- activities in materials testing of the..... 1178
- metal committees of the..... 386
- American Society of Civil Engineers, George Tilley Seabury new secretary of..... 73
- summer meeting of the..... 778
- Ammonia and air compressors, flywheel..... 1158
- compressor, Guettner..... 927
- solutions, aqueous, vapor pressures of..... 591
- vapor, superheated, specific volume of..... 591
- Analysis of power-plant performance based on the second law of thermodynamics..... 426
- ANDERSON, JOHN. Safety in the operation of pulverized-fuel systems (D)..... 116
- Pulverized fuel (D)..... 228, 823
- ANDERSON, R. J., and BROOKS, S. H. Corrosion of alpha-beta brass as affected by grain size..... 643
- Andraeu motor..... 292
- ANDREWS, L. V. Microscopic study of pulverized coal..... 429
- Angle bars, punching and cropping, machine for..... 294
- ANGUS, R. W. Mechanical features of hydroelectric plants (D)..... 831
- Pumping-engine tests (D)..... 843
- Annual Meeting papers, 1925, synopses of those not printed in Mid-November issue..... 1085
- Anthracite, recent developments in the burning of..... 573
- Anti-corrosive paints..... 1150
- Apparatus and instruments, test code on (Chap. 3 on temperature measurement)..... 1161
- test code on instruments and (Chap. 21 on condenser-leakage tests)..... 920
- APPLETON, C. T. Commercial cylindrical lapping (D)..... 1106
- Apprenticeship..... 681
- need of district organization for modern..... 96
- plan, the place of vocational schools in the district..... 625
- program, a national..... 416, 624
- railroad, the place of, in a national apprenticeship plan..... 624
- Arbitration laws, editorial..... 382
- ARCHBUTT, S. L..... 1151
- ARMITAGE, J. B. Interchangeability of repair parts..... 306
- Artificial drying of crops, note on..... 32
- Asbestos, blue..... 125
- Ash, furnace, as a refractory material..... 1150
- handling plant..... 296
- ASHDOWN, A. J..... 936
- A.S.M.E. Annual Meeting, forty-fifth..... 63
- Aeronautic session..... 68
- Boiler code meeting at the..... 69
- Business meeting..... 64
- Committees for..... 66
- Dinner and social program of the..... 63
- Education and training for industries of non-college type session..... 68
- Excursions at the..... 65
- General session..... 66
- Hydraulic session..... 69
- Lubrication session..... 68
- Machine-shop practice session..... 67
- Management session..... 69
- Management and machine-shop practice session..... 69
- Mechanical design for safety session..... 68
- National defense session..... 68
- Oil and gas power session..... 69
- Oil burning session..... 67
- Oil handling and storing session..... 65
- Power Show in connection with the..... 69
- Power test codes. See Power Test Codes.
- Power test codes, public hearing on at the..... 67
- Progress in steam table research session..... 68
- Research in machine design and operation session..... 65
- Steam power session..... 68
- Student-branch conference at the..... 65
- Technical Committee meetings at the..... 69
- Textile session..... 66
- Turbo-locomotive session..... 67
- A.S.M.E. Annual Meeting, forty-sixth, tentative program of the..... 959
- A.S.M.E. code for pressure piping..... 1159
- A.S.M.E. local sections, meetings of, editorial..... 226
- A.S.M.E. Milwaukee tentative spring-meeting program..... 391
- A.S.M.E. pledges cooperation to new War Secretaries..... 1170
- A.S.M.E. Power Test Codes. See Power Test Codes.
- A.S.M.E. Spring Meeting in Milwaukee..... 594
- Apprenticeship session..... 602
- Business meeting..... 594
- Entertainment events..... 594
- Excursions and plant visits..... 594
- Forest products session..... 595
- Hydroelectric session..... 595
- Industrial power session..... 601
- Machine-shop practice session..... 595
- Management session..... 603
- Materials-handling session..... 597
- Materials session..... 596
- Milwaukee session..... 596
- National defense session..... 597
- Pulverized-coal session..... 596
- Railroad session..... 603
- Steam power session..... 601
- A.S.M.E. Spring Meeting in Milwaukee breaks records for attendance..... 521
- Atkinson steam wagon with uniflow engine..... 129
- Atlas Diesel marine engine..... 1153
- Atomic energy, gold from mercury and, editorial..... 948
- Atomizer, turbo, Knecht..... 931
- Atomizing fuel oil, cost of..... 357
- Atterbury, W. W., honorary membership conferred on, at Altoona meeting..... 951
- Audibert's experiments..... 290
- AUEL, C. B. The obligation of safety in engineering, editorial..... 380
- Safety in the operation of pulverized-fuel systems (D)..... 115

AULT, E. S. A comparison of modified ball-indentation hardness numbers.....	732
Automobile bodies, all-steel, welding.....	1160
how it helps the railroads, note on.....	534
-noise measurement.....	758
transmissions.....	754
with engine at rear of chassis.....	670
Auxiliaries, turbine- and boiler-room.....	188
Aviation and the U. S. Navy.....	670
civil, the recommendations and summarized findings of the committee on.....	1179
AYER, N. E. Wood waste (D).....	775
AZBE, VICTOR J. Industrial-furnace efficiency..	1061

## B

Babbitt lining, fatigue of.....	350	BENEDICKS, CARL.....	352	BOLTON, R. P. Fuel oil in the commercial buildings of New York (D).....	489
BABCOCK, GEORGE D.....	243	BENNIE, GEO.....	938	Bolts and rivets, quenched.....	510
"Baby plane," DeHaviland.....	580	BENSON, F. R. Mechanical features of hydro-electric plants (D).....	831	for use in power-plant construction.....	1034
BADGER, W. L.....	360	Benson process of generating steam.....	358	nuts, and rivets, substantial progress made in standardization of.....	142
BAILEY, A. D. Air preheaters (D).....	179	Bent-tube Heine boiler.....	1157	Bomber, day, Boulton-Paul "Bugle".....	580
Water-cooled furnaces (D).....	200	Bentley car, six-cylinder.....	753	Bombing, aircraft, accuracy.....	1155
BAILEY, CARL C.....	933	Bergius process of fuel treatment.....	851	BONNELL, C. M. Scientifically developed shipping containers.....	979
BAILEY, E. G. Boiler furnaces for pulverized coal (D).....	636	Berk supercharger.....	754	Book reviews and library notes.....	76, 153, 232, 370, 387, 524, 603, 690, 780, 868, 954,
Safety in the operation of pulverized-fuel systems (D).....	115	BERLINER, H. A. Helicopters (D).....	266	BOSTON, O. W. Hardness testers (D).....	282
Bain, H. Foster, appointed secretary of A.I.M.E.	682	Bethlehem Steel Co., gas engines of the Maryland plant of the.....	1007	Boulton-Paul "Bugle" day bomber.....	580
BAIRSTOW, PROF. L.....	210	Bird.....	203	"Boundary layer".....	210
BAKER, G. S.....	504	BIERBAUM, C. H. Lubrication (D).....	114	lubrication.....	206
BALCKE.....	931	Bilateral and unilateral tolerances as applied to interchangeable manufacture.....	485	Bourdon-tube pressure gage.....	128
Baldwin Diesel locomotive.....	503, 933	BILES, SIR JOHN.....	507	Boyle's law for high-pressure gas, correction to..	897
Locomotive Works.....	360, 933	BINKERD, R. S. The railway as an economic force.....	1101	BRADLEY, W. F.....	754
Ball bearings, general properties of.....	490	Birmingham, University of, Mining Research Laboratory.....	1152	BRADSHAW, GRANT D.....	756
bearings, Spiro.....	930	BLACK, ARCHIBALD. Aerial surveying equipment (D).....	266	Brakes, air.....	209, 934
hardness, duration of loading and.....	133	Helicopters (D).....	267	Bramson-Savage anti-stall gear.....	849
-indentation hardness numbers, a comparison of modified.....	732	Progress in aeronautics as related to mechanical engineering.....	1135	Brass, alpha-beta, corrosion as affected by grain size.....	643
-indentation tests, editorial.....	777	BLACK, L. J. What is an engineer and how much pay should he receive? (C).....	679	and other soft metals, high-speed cutting of, in standard machine tools.....	705
Ballast water discharged from ship fuel-oil tanks, an oil separator for purifying.....	645	Blackstone oil engine.....	853	high-speed cutting of.....	705
Balsam-wool insulation.....	581	BLANCHARD, F. S. Application of engineering principles to economic problems in the textile industry (D).....	276	rod, machining, problems encountered in....	1110
BARLOW, LESTER P.....	508	Blast furnaces, research method for.....	212	BRECKENRIDGE, L. P. Subterranean heat as a source of energy.....	1175
BARNES, W. J. An oil separator for purifying ballast water discharged from ship fuel-oil tanks.....	645	BLEE, H. H. The airship and its place in commerce.....	961	Brick, fireclay.....	850
BARNHURST, H. G. The preparation of pulverized coal.....	87	BLOOD, B. H. Hardness testers (D).....	284	Bricks from ashes.....	326
Safety in the operation of pulverized-fuel systems (D).....	116	BLOWNEY, W. E., and WARREN, G. B. Increase in thermal efficiency due to resuperheating in steam turbines.....	455	Bridge, submarine tubular.....	203
BARRIER, E. A. Oil burning under steam boilers (D).....	281	Boeing, Kirsten-, propeller.....	506	Bridges, steel, specification for, before A.E.S.C. Committee.....	364
BARRUS, GEO. H. Test of a uniflow engine....	440	Boiler and condenser tubes, corrosion of, and action of the hot wall.....	351	BRIDGMAN, PROF. P. W.....	1156
Closure to discussion on.....	845	Becker.....	855	Properties of matter under high pressure....	161
Pumping-engine tests (D).....	843	code committee, A.S.M.E., work of the.....	56, 225, 378, 515, 593, 771,	BRIGGS, PROF. HENRY.....	203
Bars, angle, punching and cropping, machine for.	294	efficiency, effect of excess flue-gas temperature on.....	671	Brinell hardness.....	133
Bartlett angular transmission.....	47	evaporative tests at River Rouge.....	357	hardness numbers.....	298
Bassett, William H.,—1925, James Douglas, medalist.....	71	-feedwater purification.....	909	Bristol Jupiter aircraft engine.....	502
Beacham, Hele-Shaw variable transmission gear.	1154	Findlay.....	508	British Army maneuvers of September, 1925, aircraft in.....	1149
Beam, stresses in a.....	753	firing, technology of.....	846	Marine-Oil-Engine Trials Committee.....	504
Beams, curved, torsion problem.....	208	fuel, development of pulverized coal as a.....	89	BROIDO, B. N.....	296
BEARCE, H. W. Unilateral and bilateral tolerances as applied to interchangeable manufacture.....	485	-furnace walls, water-cooled.....	671	Increase in thermal efficiency due to resuperheating in steam turbines (D).....	460
Beardmore all-steel quick-running Diesel engine. crude-oil aircraft engine.....	1153, 502	furnaces for pulverized coal.....	632	Radiation in the pulverized-fuel furnace (D).....	636
W. B.-XXVI airplane.....	927	Heine, bent-tube.....	1157	mechanical springs (D).....	718
Bearing, ball, Spiro.....	930	materials.....	295	Bronze, manganese.....	668
materials.....	350	plate, caustic embrittlement of.....	942	steel.....	667
pressure.....	1153	-room auxiliaries, turbine and.....	188	sparkless tools.....	44
pressures causing rupture in lubricating-oil films, an investigation of the critical....	110	-room operation of wood-refuse-fired steam plants.....	550	Bronzes, new.....	667
pressures, critical (C).....	941	settings, coal-fired.....	850	BROCKMANN.....	846
Bearings, ball, general properties of.....	490	small, a plea for justice for the.....	880	BROOKS, H. W.....	587
high-pressure, research on.....	109	subaqueous-combustion, Brunler.....	358	Boiler furnaces for pulverized coal (D).....	636
BEAVER, R. Aerial surveying equipment (D)...	266	water, foaming of.....	49	The development of pulverized coal as a boiler fuel.....	89
Becker boiler.....	855	water-tube, large.....	585	Outstanding developments in fuels engineering and research during 1924.....	145
BECKETT, C. A. Hardness testers (D).....	284	Boilers at Hell Gate Station, patents on.....	1156	Pulverized coal (D).....	822
BECKNER, H. W. Combustion of wood-waste from lumber-manufacturing plants.....	545	at the River Rouge Plant of Ford Motor Company.....	295	Radiation in the pulverized-fuel furnace (D).....	627
Hog fuel (D).....	775	blowing down.....	755	Safety in the operation of pulverized-fuel systems (D).....	115
BEHRMAN, A. S. Boiler-feedwater purification.	909	feeding, pumps and injectors for.....	931	BROOKS, S. H., and ANDERSON, R. J. Corrosion of alpha-beta brass as affected by grain size.....	643
BELL, G. G. Pulverized fuel (D).....	228	high-pressure.....	507	size.....	1158
Turbine- and boiler-room auxiliaries.....	188	high-pressure, on the <i>Malolo</i> .....	1155	Brown-Boveri turbines.....	1158
Bell, Thos. & Co., of Kriens, Switzerland.....	285	hog-fuel-burning, settings for.....	552	BROWN, C. R. Influence of the locomotive upon the unity of our country.....	1103
Bell system educational conference.....	683	marine.....	127	BROWN, F. H. Manufacture of commercial steel helical springs.....	1053
Telephone System.....	1159	oil-burning, refractories for.....	299	BROWN, J. A. Formulas for computing economies of labor-saving equipment (C)....	59
Belt conveyor, longest, in the world.....	203	power, suggested rules for the care of....	371	BROWN, RALPH L.....	1152
Belting, leather, tentacular.....	127	priming in.....	49	BROWN, W. C. Tests of a uniflow engine (D)...	844
Belts, tension ratio and transmissive power of..	1111	pulverized-fuel-fired, test of, at the Lake Shore Station, Cleveland.....	25	BROWNIE, DAVID.....	358
		pumps and injectors for feeding steam.....	931	Brunler subaqueous-combustion boiler.....	358
		stationary steam, new A.S.M.E. power test code for, now available.....	141	BRUNNER, A.....	749
		steam, a review of recent applications of powdered coal to.....	19	BRYAN, W. E. Engineers in public service, editorial.....	1171
		steam, oil burning under.....	276	Buckan, trip to Scotland of.....	230
		water-tube surfaces of, exposing to flame....	357	the Flettner sailless ship, photograph of....	74
		welding on.....	1148	BUCKINGHAM, EARLE. Engineering standards. Inspection methods.....	55
		Boilovers, oil-tank-fire.....	540	Proposed standards for herringbone gears (C).....	62
		BOISSIER, M. R.....	930	Review of book on Elements of Machine Design.....	310
		Bolt, nut, and rivet proportions.....	1166	Buckshot cartridge against airplanes.....	1149



"Bugle" day bomber, Boulton-Paul.....	580	short-time malleableizing of.....	623	drying, Carpenter centrifuge for.....	934
Building construction and earthquakes.....	778	Casting, centrifugal, of large-diameter cast-iron pipes.....	581	handling below ground.....	700
Buildings, New York, commercial, fuel oil in.....	487	in permanent molds.....	581	inorganic constituents of.....	749
BULL, R. A. Steel-foundry management.....	653	Castings, addition of nichrome to.....	850	liquefaction, Bergius process of.....	1151
Closure to discussion of above paper.....	657	aluminum-alloy.....	1151	Mines, Employees' Representation in, a book review of.....	780
BULLARD, E. P., JR. Simplified control methods in manufacturing (D).....	336	and forgings.....	657	"mother-of-.....	750
BUNDY, O. H. Mechanical features of hydro-electric plants (D).....	831	indicating weights of, on blueprints (C).....	62, 223, 859	powdered, applications of, to steam boilers, a review of recent.....	19
Bureau of Mines, transfer of.....	689	iron, fire-resistant.....	580	powdered-, installation, Baldwin Locomotive Works.....	933
BURGESS, FRANK.....	582	steel, x-ray examination of.....	393	preparation of pulverized.....	87
BURHORN, EDWIN. Water-cooling-system efficiency (D).....	333	Caustic embrittlement of boiler plate.....	942	pulverized, at Cahokia.....	271
BURKE, H. M. Application of engineering principles to economic problems in the textile industry (D).....	275	Cavitation coefficient $k_c$ .....	354	pulverized, boiler furnaces for.....	632
BURLINGAME, L. D. Apprenticeship (D).....	626	Cellular india-rubber insulation.....	204	pulverized-burning at Detroit Edison Company's Trenton Channel plant.....	271
High-speed cutting of brass and other soft metals in standard machine tools.....	705	Cement, alumina, electrically fused.....	203	pulverized, development of as a boiler fuel.....	89
Simplified control methods in manufacturing (D).....	335	Pelumina.....	501	pulverized, microscopic study of.....	429
BURRUS, RAY C. The Diesel engine in small and medium-sized power plants.....	18	Cements, sand.....	203	pulverized, stokers vs.....	586
Bursting forces acting on walls of vessels and pipes.....	209	"Center-pour" weld.....	1160	pulverized, testing the fineness of.....	822
BUSH, S. P. The transportation industry and the engineer.....	1093	Centerless grinding.....	943	-pulverizing plant and its operation, the unit -purchase, delivery and storage, industrial; review of book on.....	154
Butler shaft-end-squaring machine.....	669	theory and practice of.....	695	Coals, different compositions.....	846
		Centrifugal and rotary pumps, test code for.....	214	See Fuels.....	
		-casting calculations.....	581	Code for pressure piping, A.S.M.E.....	1159
		casting of large-diameter cast-iron pipes.....	581	for unfired pressure vessels, modification in report on.....	57
		compressors for Diesel engines.....	1075	of design for mechanical springs.....	713
		fans for electrical machinery, performance of pumps. See Pumps, centrifugal.....	319	Codes, power test. See name of code.....	
		treatment of Diesel fuel oils.....	750	COFFEY, B. H. Water-cooling-system efficiency (D).....	332
		Centrifuge, Carpenter, for coal drying.....	934	COLBY, H. S. Burning of anthracite (D).....	579
		Chains and sprockets transmission, standardization of.....	362	Cold-working on hollow cylinders, effect of.....	919
		CHALONER, J. L.....	853	COLLINS, B. R. T. Water-cooling-system efficiency (D).....	332
		CHAMBERLAIN, G. E. Pulverized fuel (D).....	227	"Colloid mills," note on.....	62
		Water-cooled furnaces (D).....	199	Color markings, standardization of, for compressed-gas cylinders.....	677
		CHAMBERS, C. E. Progress in railroad mechanical engineering.....	1132	Colorado River, problem of the.....	79
		Turbo-locomotives (D).....	242	Colors for traffic signals, work of standardizing nearing completion.....	676
		CHAPMAN, PROF. R. W.....	510, 511	Columbia University to administer patents.....	521
		Chart for determining the weight of moist air.....	492	Combustion control.....	193
		CHASAN, L. H. Hardness testers (D).....	284	influence of pulsations on.....	290
		CHASON, D. H. Engineering standards (D).....	558	of wood waste from lumber-manufacturing plants.....	545
		Chemical Age.....	1151	on locomotives, fuel and its.....	757
		Cheshire, Lancashire and, Coal Owners' Association.....	1152	Commerce, airship and its place in.....	961
		CHEVENARD, PIERRE.....	669	Department of, Bureau of Mines transferred to the.....	689
		Chicago, Milwaukee & St. Paul Railway Co., electric and steam operation on the mountain divisions of.....	297	Commercial buildings of New York, fuel oil in cylindrical lapping.....	1106
		-New York air-mail service starts.....	688	steel helical springs, manufacture of.....	1053
		second annual power meeting at.....	229	Community planning, editorial.....	517
		Section machine-tool meeting.....	306	Compass, earth-induction.....	795
		Union station, power facilities in.....	755	gyro, incorporating two gyroscopes.....	212
		CHRISTIE, A. G. Boiler furnaces for pulverized coal.....	632	Compensation for engineering work.....	867
		Closure to discussion on above paper.....	636	for engineering work (C).....	1164
		Lake waters for condensers.....	809	Compressed-gas cylinders, caution in using.....	908
		Metallurgy for mechanical engineers, editorial.....	380	standardization of color markings for.....	677
		Parallel operation of hydro and steam plants (D).....	731	Compression in gas engines.....	126
		CHRISTIE, J. L. Problems encountered in machining brass rod.....	1110	Compressor, 500-hp. rotary, Swiss.....	289
		Chromium steel, "flakes" or "hair cracks" in.....	749	Compressors and pumps, the Diesel engine as a drive for.....	744
		Chuck, offset, for turret lathe.....	127	Compressors, flywheel air and ammonia.....	1158
		Cirrus airplane engine.....	580	for Diesel engines, centrifugal.....	1075
		City, modern, and engineer's relation to it.....	824	rotary piston.....	927
		Civil aviation, the recommendations and summarized findings of the committee on.....	1179	turbo-, design of.....	288
		Clackamas, the Diesel-electric pipe-line dredge.....	605	Concentration in boilers.....	735
		Clarain.....	750	Condenser-leakage tests (Chap. 21 of test code on instruments and apparatus).....	920
		CLARK, A. B. Large steam turbines (D).....	188	surface, Ginabat.....	132, 294
		CLARK, F. S. Progress in steam-power engineering.....	1123	surface-, steam used by auxiliaries.....	49
		CLARK, LEE HINCHMAN.....	750	tubes, boiler and, corrosion of, and action of the hot wall.....	351
		CLARKE, C. W. E. Air preheaters.....	175	Condensers, lake waters for.....	809
		Closure to discussion on above paper.....	182	Condensing turbo-electric locomotive, Ramsay.....	235
		Boiler furnaces for pulverized coal (D).....	636	Conflagration, standardization to prevent.....	680
		Pulverized fuel (D).....	228	Conklin flotation process, cleaning of coal by.....	44
		Water-cooled furnaces (D).....	200	Connecting rods.....	350, 355
		CLAYDEN, A. LUDLOW.....	751	Conservation in the refinery (synopsis).....	652
		Cleaning machinery, spray method of.....	752	of oil and gas in the field (synopsis).....	651
		"Cleavage plane".....	1160	Containers, shipping, scientifically developed.....	979
		Cleveland manufacturers, presenting approved American standards to.....	305	Control methods in manufacturing, simplified.....	334
		Safety Congress.....	950	production.....	243
		symposium revealed successful use of pulverized fuel.....	227	Convection currents.....	360
		"Clink detector," note on.....	4	Conveyors, hog-fuel.....	553
		Clutches and transmission for the RS-1 semi-rigid airship.....	751	COOLEY, R. L. The place of vocational schools in the district apprenticeship plan.....	62
		Coal, calorific value of.....	749		
		cleaning by Conklin flotation process.....	44		

- Cooling a gaseous fluid previous to its compression..... 298
- Cooling-water evaporator..... 931
- COONLEY, HOWARD. Production control (D)..... 248
- COPE, E. T., and CARTER, W. A. Rational design of covering for pipes carrying steam up to 800 deg. Fahr..... 805
- Cordage investigation..... 301
- Correspondence..... 59, 138, 223, 302, 363, 513, 678, 770, 859, 941, 1164
- Corrosion..... 149
- localized, surface abrasion and..... 351
- of alpha-beta brass as affected by grain size..... 643
- of boiler and condenser tubes and action of the hot wall..... 351
- of non-rusting iron and steel alloys..... 749
- study of..... 667
- Corrugated ship *Monitor*..... 294
- Cortelyou, Geo. B., member of the advisory committee on standardization..... 385
- portrait of..... 385
- COUNTY, A. J. The growth of a great transportation system..... 1097
- COUTANT, J. G..... 357
- Boiler furnaces for pulverized coal (D)..... 636
- The unit coal-pulverizing plant and its operation..... 183
- COX, A. B..... 206
- COX, J. L. Defects of large forgings (D)..... 662
- COX, J. W. Application of engineering principles to economic problems in the textile industry (D)..... 276
- COYLER, A. M. Fuel oil in the commercial buildings of New York..... 487
- Cracking, oil, modern methods of..... 11
- CRAIG, OLLISON, and RILEY, R. SANFORD. The development of a unit pulverizer..... 1047
- CRAMER, ROBERT. Uniflow and compound duoflow engines..... 191
- Crankless engine, Michell..... 356
- Crankshaft vibration, generator problems due to..... 793
- Crankshafts, stress distribution in..... 126
- Creep..... 664
- "Creeping gear"..... 207
- CRISTEN, DR. F..... 359
- Critical bearing pressures (C)..... 941
- speed, deflection of a shaft at..... 724
- tables, international, soon to be published..... 1140
- CROLIUS, F. J..... 589
- CRONAN, C. B. Pioneers needed in field of four-dimensional engineering (C)..... 678
- Crops, artificial drying of, note on..... 32
- CROSS, C. W. Education and training for the industries (D)..... 102
- Croydon airplane accident..... 349
- CROZIER, H. W. Aerial surveying equipment (D)..... 266
- Crucibles, steel..... 1160
- Crystalline structure of ferrous metals..... 479
- Cupola, steel melting in the..... 501
- with peep-holes..... 501
- CURTIS, THOMAS S. Refractories for oil-burning boilers..... 299
- CUSHMAN, FRANK. Apprenticeship (D)..... 625
- Training for industry and the public program of vocational education..... 98
- CUTLER, C. W..... 1158
- Cutting metals, editorial..... 304
- brass and other soft metals in standard machine tools, high-speed..... 705
- tools, symposium on..... 504
- Cylinder, "envelope" deformation of..... 209
- rotating, influence of, on a wing..... 349
- Cylinders, compressed-gas, caution in using..... 908
- design of air-cooled..... 647
- elastic strength increased by enlargement of bore..... 919
- Cylindrical lapping, commercial..... 1106
- precise..... 701
- Czech engineers celebrate 60th anniversary..... 778
- Czechoslovak engineering standards association, diagram of organization of..... 301
- Czechoslovakia, an American tribute to the Unknown Soldier of (C)..... 678
- D**
- DAHLSTRAND, HANS. A review of steam-turbine development..... 800
- DALBY, PROF. W. E..... 201
- DALRYMPLE, CHAS. Oil engines in flour-mill operation..... 743
- DALTON, H. H. The burning of anthracite (D)..... 578
- DANIELS, G. C. Industrial use of the oil engine (D)..... 257
- Turbine- and boiler-room auxiliaries..... 188
- DANIELS, G. R..... 1150
- DANIELS, SAMUEL. Magnesium and its alloys..... 796
- DANILOV, M., and MARKS, L. S. Gas turbines..... 462
- D'ARCAMBAL, A. H. Hardness testers (D)..... 284
- DARLINGTON, P. J. Measuring systems and tolerance limits..... 903
- DARNELL, J. R..... 672
- DAUGHERTY, ROBT. L. High-speed newsprint manufacture (D)..... 773
- Performance of centrifugal pumps when pumping oils..... 297
- DAVID, W. T..... 292
- DAVIS, ALBION..... 353
- DAVIS, DWIGHT F. Engineering problems of national defense..... 33
- DAVIS, E. W. The prime cause of friction..... 906
- DAVIS, HARVEY N. Progress report on the Joule-Thomson effect..... 107
- DAY, CHARLES. Presentation of W. W. Atterbury for honorary membership..... 951
- DAY, W. E. Carburization and case-hardening..... 916
- DEAN, F. W. Test of a Prosser-type reciprocating steam engine (D)..... 253
- DEBAR, H. L. Modern oil-cracking methods..... 11
- DEBAUFRE, W. L. Analysis of power-plant performance based on the second law of thermodynamics..... 426
- The fundamentals of research..... 886
- DEBLOIS, LEWIS A. A place for safety..... 34
- Safety in the operation of pulverized-fuel systems (D)..... 116
- Defects in large forgings..... 400
- Defense, national, engineering problems of..... 33
- DEFOREST, A. V. Hardness testers (D)..... 283
- Degree-day..... 758
- DeHaviland "baby plane"..... 580
- Delaware & Hudson Co. locomotive..... 132, 211, 298
- DELEUW, A. L. Centerless grinding (D)..... 945
- DENNY, R. C., and SHOUDY, W. A. Recent developments in the burning of anthracite..... 573
- DENT, JOHN A. Deflection of a shaft at the critical speed..... 724
- DEPFELER, J. H..... 1160
- DERN, G. H. The engineer in politics..... 1173
- DESCHAMPS, J..... 291
- Detroit Edison Company's Trenton Channel plant, pulverized-coal burning at the..... 271
- Dewpoints of fuel-air mixtures..... 850
- D'HUART, KARL..... 933
- DICKINSON, E. D. Turbo-locomotives (D)..... 242
- Die-cast vs. machined parts..... 306
- Die casting (C)..... 141
- DIEMER, HUGO. Education and training for the industries (D)..... 101
- Diesel and oil engineering handbook, review of..... 868
- electric locomotive, Baldwin..... 1157
- electric locomotive built for Russia..... 212
- electric pipe-line dredge *Clackamas*..... 605
- engine as a drive for pumps and compressors..... 744
- engine, automatically lubricated..... 354
- engine, double-acting, problem..... 668
- engine, exhaust temperature of..... 47
- engine in small and medium-sized power plants..... 18
- engine, Knudsen..... 1157
- engine, Krupp..... 851
- engine, M. A. N..... 46
- engine, quick-running, all-steel, Beardmore..... 1153
- engine, two-cycle, double-acting, sliding-cylinder..... 355
- engines, centrifugal compressors for..... 1075
- engines, lubrication of..... 265
- fuel oils, centrifugal treatment of..... 750
- hydraulic locomotive..... 648
- locomotive, Baldwin..... 503
- locomotive, German..... 672
- marine engine, Atlas..... 1153
- Differential-pressure steam-generating system—Patent Office..... 507
- Dilatometric investigation of cast irons..... 669
- Dirigible, British..... 500
- Disk, the rotating (C)..... 224
- Distribution, standardization and the problems of..... 300
- DIXON, W. F. Progress in machine-shop practice..... 1115
- DODGE, M. L. The mechanical features of salmon canning..... 612
- DOOLITTLE, H. L. Mechanical features of hydro-electric plants (D)..... 831
- Dope, firebrick..... 580
- Douglas, James, 1925 medalist—William H. Bassett..... 71
- DOW, E. A. Mechanical features of affecting the reliable and economical operation of hydroelectric plants..... 825
- Doxford oil engine..... 852
- Drafting-room practices, standardization of drawings and..... 676
- practices, standardizing, editorial..... 380
- practices that may be standardized, some elements of..... 346
- Draft tubes..... 352
- Drawings and drafting-room practices, standardization of..... 676
- method of indicating tolerance limits on (C)..... 513
- Dredge *Clackamas*, Diesel-electric pipe-line..... 605
- DRESDEN, D. Efficiency of more than 100 per cent (C)..... 770
- The rotating disk (C)..... 225
- DREWRY, M. K. Comparison of actual performance and theoretical possibilities of the Lakeside station..... 811
- DREYFUS, E. D. Industrial use of the oil engine (D)..... 257
- "Drive, super" (motor machine-tool)..... 583
- Driving gear, synchro-balance..... 47
- Drying coal, Carpenter centrifuge for..... 934
- of crops, artificial, note on..... 32
- DUFOR, HENRI..... 930
- DUGUID, JAMES. Lubricants and lubrication..... 887
- Dumbwaiters, escalators and elevators, safety code for..... 219
- Duoflow engines, uniflow and compound..... 191
- Durain..... 750
- DURAND, WILLIAM F. Helicopters (D)..... 268
- presents W. W. Atterbury with honorary membership..... 953
- The problem of the Colorado River..... 79
- DURBAN, T. E. Weights should be indicated on blueprints when asking for estimates on castings (C)..... 62
- DURIN, H..... 757
- DUTTON, H. P. Simplified control methods in manufacturing (D)..... 335
- Dynamic stresses in rotating gear pinions (C)..... 138
- Dynamite, testing..... 937
- E**
- EARLE, CAPT. RALPH, becomes president of Worcester Polytechnic Institute..... 1174
- portrait of, with Ira N. Hollis..... 1174
- Earth-induction compass..... 795
- internal heat of..... 1176
- Earthquakes, building construction and..... 778
- EBERHARDT, H. J. Engineering standards (D)..... 558
- EBERHARDT, W. W. Parallel operation of hydro and steam plants (D)..... 731
- ECKERSON, H. L. The storage and handling of fuel oil in industrial plants (D)..... 273
- ECKHART, WILLIAM RANKINE. Progress in petroleum engineering..... 1126
- Specific heat-specific gravity-temperature relations of petroleum oils..... 535
- Economic efficiency of full-automatic turret lathe in comparison with semi-turret lathe..... 411
- force, the railway as an..... 1101
- situation, the world..... 745
- Economics of shopping steam locomotives, factors concerning the..... 419
- Economies, measuring, editorial..... 70
- of labor-saving equipment, an application of the formulas for computing the..... 408
- of labor-saving equipment, formulas for computing the..... 403
- of labor-saving equipment, formulas for computing (C)..... 59
- Education conference, Bell system..... 683
- Education and training for the industries..... 94
- and training for the industries, discussion of papers on..... 100
- engineering, investigation of..... 150, 687



research in engineering.....	386	127-EI, 123-EI, 123-EI, 113-EI, 121-EI,	metals, crystalline structure of.....	479
technical, relation of, to industry.....	102	117-EI, 117-EI, 151-EI, 127-EI, 123-EI, 103-EI	metals, metallurgy of.....	339,
vocational, training for industry and the		Late items to.....78, 156, 234, 312,	.....479, 559, 637, 735, 832	
public program of.....	98	.....390, 526, 604, 694, 782, 870, 958, 1190	FIELDNER, A. C.....	1152, 1153
Efficiency of more than 100 per cent, editorial...	381	in railroading, editorial.....	Findlay boiler.....	508
of more than 100 per cent (C).....	770	National Government educates for.....	Fires, oil-tank, boilovers resulting from.....	540
thermal, increase in, due to resuperheating in		problems of national defense.....	Firebrick dope.....	580
steam turbines.....	455	standards.....	Fireclay brick.....	850
discussion on above paper.....	460	talent, export of from England, note on.....	Fire-hose coupling screw threads, note on.....	939
EGBERT, CHAS. C.....	285	work, compensation for.....	threads, District of Columbia adopts na-	
EINSTEIN, S. The standardization of machine		work, compensation for (C).....	tional.....	362
tools.....	614	work of the Government, reorganizing the..	Fireless steaming system.....	856
EISINGER, J. O.....	291	Engineer's relation to the modern city.....	Fireproofing of structural steel.....	257
EKSERGIAN, R. Turbo-locomotives (D).....	240	Engineers and the American petroleum situation..	FISCHER, A. K. X-ray examination of steel	
Elastic limit in tension.....	666	elected to Academy of Sciences.....	castings (D).....	658
Elasticity, proportional.....	201	vindicated, war-construction, editorial.....	FISCHER, FRANZ.....	1151, 1152
recovery of.....	201	young, scientific placement of (C).....	Fisher, Elbert C., dies.....	603
Electrical Engineers, American Institute of,		"Engineman" or "engineer".....	Fissures and shattered zones in rails.....	749
Saratoga meeting of the.....	684	"Engineman" or "engineer" (C).....	Fits, a system of limits for different kinds of....	901
Electrical machinery, performance of centrifugal		Engines, aircraft.....	a system of limits for different kinds of (C) ..	1165
fans for.....	319	aircraft, altitude and power of.....	Fitting and valve industry, metallurgical de-	
measuring instruments, springs for.....	1057	commercial efficiency of internal-combustion	velopments in.....	1141
Electric locomotives, Detroit, Toledo and Ironton		and steam power, for high-speed passenger	Fittings, malleable and cast-iron screwed, pro-	
drive for ships.....	128	vessels.....	posed American standards for.....	117
logging.....	820	Diesel, centrifugal compressors for.....	FLACK, ALONZO. Application of engineering	
molder.....	984	Diesel, lubrication of.....	principles to economic problems in textile	
Electrociment.....	203	gas-blowing, economy of.....	industry (D).....	274
Elevators, dumbwaiters and escalators, safety		gas, compression in.....	Flame, "luminous".....	748
code for.....	219	gas, missing pressure in.....	propagation in gas and coal-dust suspensions..	1152
Eliminators, automatic, for alluvial matter.....	928	gas, of the Maryland plant of the Bethlehem	FLANDERS, RALPH E. Production control (D) ..	248
ELLENWOOD, F. O. Increase in thermal efficiency		Steel Co.....	Simplified control methods in manufacturing.	
due to resuperheating in steam turbines		oil, industrial applications of.....	closure to paper on.....	337
(D).....	460	oil, solid-injection.....	FLATHER, E. J. Application of engineering prin-	
Elliott Cresson gold medal awarded Francis		oil, waste-heat reclaimers to.....	ciples to economic problems in textile in-	
Hodgkinson.....	520	Packard.....	dustry (D).....	275
ELMER, N. W. Coal handling below ground....	700	pumping, duty tests of vertical triple-expan-	FLEMING, H. H. The storage and handling of fuel	
EMMER, G. H.....	757	sion at Milwaukee, Wis.....	oil in industrial plants, closure to paper on ..	273
EMMET, WILLIAM LEROY. Carnot's influence		steam, testing, by the heat-balance method..	Flettner rotorship, economic question of the....	319
upon engineering.....	39	uniflow and compound duoflow.....	rotor ship, list of references on.....	387
Employees' Representation in Coal Mines, book		England, power alcohol in.....	rotorship principles in aeronautics.....	125
review of.....	780	refrigeration research.....	Flight, fuel consumption in.....	667
Representation in Steel Works, book review of		"Equivalent mass".....	long-distance.....	349
Endurance properties of metals.....	690	Escalators, safety code for elevators, dumb-	the "round Germany".....	666
Energy, subterranean heat as a source of.....	1175	waiters and.....	Flotation process, Conklin, cleaning of coal by...	44
Engine, aircraft, Beardmore crude-oil.....	502	EVANS, ULICK R.....	Flour-mill operation, oil engine in.....	743
aircraft, Bristol Jupiter.....	502	Evaporation, kinetic theory of.....	Flow, fluid, theory of.....	205
aircraft, industry, achievements of American		of water into air, temperatures of.....	water, velocity in measurements of.....	582
airplane, Cirrus.....	580	Evaporative tests of boilers at River Rouge.....	FLOWERS, A. E. Lubrication (D).....	113
crankless, Michell.....	356, 1153	Evaporator, cooling-water.....	Flue-gas temperature, excess.....	671
development, air-cooled.....	791	Evasées, fan.....	Fluid flow, theory of.....	205
Diesel, in small and medium-sized power		Executive, the engineer as a railroad.....	Flying boat, all-metal, Rohrbach.....	500
plants.....	18	Exhaust-gas turbines and superchargers.....	Foaming of boiler water.....	49
heavy-oil, trials, codes for recording.....	590	turbines, how much can be gained by (C)...	FOERSTER, DR. ERNST.....	584
internal-combustion, mechanical efficiency		Extensometer, new form of.....	Ford Road electric locomotives.....	934
of.....	503		Forest Week, American.....	519
marine, outboard, "Watermota".....	1155		Forgings and castings.....	657
oil, industrial use of.....	255		large, defects in.....	400
Rolls-Royce overhead-valve.....	585		large, heat treatment of.....	673
Siddeley-Puma.....	349		Forms, commercial, proposed standards for....	300
sleeve-valve, Lincoln.....	45		Formulas for computing economies of labor-saving	
steam, test of a Prosser-type reciprocating..	249		equipment.....	50, 403
uniflow, Atkinson steam wagon with.....	129		for computing economies of labor-saving	
uniflow, test of a.....	440		equipment, an application of the.....	408
uniflow, tests of a, discussion on.....	844		standardization of symbols used in.....	148
Engineer as a railroad executive.....	313		Foundry, materials handling in.....	584
definition of an.....	221		patterns, recommended practice for the	
definition of an (C).....	679		painting of.....	361
in politics.....	1173		steel, management.....	653
status of the.....	682		Four-dimensional engineering, pioneers needed in	
transportation industry and the.....	1093		the field of (C).....	678
what is he and how much pay should he re-			France, all-metal-airplane industry in.....	849
ceive? editorial.....	516		Franklin Institute awards Elliott Cresson gold	
what is he and how much pay should he re-			medal to Francis Hodgkinson.....	520
ceive? (C).....	679		FRANKLIN, L. J., and SMITH, C. H. Effect of in-	
Engineering and industrial standards, classifica-			accuracy of spacing on strength of gear	
tion of.....	110		teeth.....	29
and Industry, National Museum of, Samuel			Freeman, Milton H., another victim of ve-	
Insull heads.....	688		hicular tunnel.....	386
and science, editorial.....	1171		Freeman, Roger M., death of.....	230
at the Science Museum.....	663		photograph of.....	230
education, investigation of.....	150, 687		Freight-car-maintenance problems, some.....	497
education, research in.....	386		FRÉMONT, CH.....	359
Education, Society for the Promotion of,			French plans for improving industrial education..	305
annual meeting of the.....	687		Frequency changers, high-speed.....	1012
Foundation completes first ten years.....	521		FREUND, C. J. Apprenticeship (D).....	626
four-dimensional, pioneers needed in the field			Friction, prime cause of.....	906
of (C).....	678		skin.....	210
graduates and engineering teaching person-			FROMMELT, H. A. Apprenticeship (D).....	626
nel.....	1181		The need for district organization of modern	
Index.....	137-EI,		apprenticeship.....	96
			Frontiers but no boundaries, editorial.....	862

- Frost, V. M. Engineering standards (D)..... 558  
 Fry, L. H. Locomotive testing plant and its influence on steam-locomotive design.... 881  
 Fuel-air mixtures, dewpoints of..... 850  
 and its combustion on locomotives..... 757  
 boiler, development of pulverized coal as... 89  
 economy in superpower stations and small power stations..... 49  
 fixed and volatile carbon in..... 846  
 hog conveyors for..... 553  
 -injection-engine research by National Advisory Committee for Aeronautics..... 1140  
 in steam-power plants, wood waste as..... 545  
 low-grade, burning of..... 846  
 motor, synthetic..... 851  
 National, Research Station..... 1152  
 oil and its supply..... 649  
 oil, for motorships of tomorrow..... 208  
 oil in commercial buildings of New York.... 487  
 oil in industrial plants, storage and handling of..... 272  
 -oil tanks, an oil separator for purifying ballast water discharged from ship..... 645  
 pulverized, Cleveland symposium revealed successful use of..... 227  
 pulverized, operating experiences in..... 271  
 research in Europe..... 1152  
 -research progress, cooperative..... 291  
 smokeless, Maclaurin process of making..... 126  
 solid, composition of..... 846  
 technology, department of, of Sheffield University..... 1152  
 Fuels engineering and research during 1924, outstanding developments in..... 145  
 engineering, development in..... 152  
 engineering, progress in..... 1124  
 Fullagar oil engine..... 852  
 Funk, NEVIN E. Lubrication (D)..... 114  
 Progress in art of power development..... 185  
 Furnace, boiler-, water-cooled walls of..... 671  
 industrial-, efficiency..... 1061  
 pressure control, open hearth with..... 589  
 radiation in the pulverized-fuel..... 627  
 Furnaces, boiler, for pulverized coal..... 632  
 industrial..... 1065  
 industrial, efficiency of..... 1061  
 oil-burning equipment for industrial..... 916  
 water-cooled..... 197  
 Fusain..... 750
- G**
- GABRIEL, C. R. Apprenticeship (D)..... 626  
 Gaging at the point of manufacture..... 511  
 GALLOWAY, J. D. Developing natural-steam wells at the Geysers, Cal..... 1176  
 GARDNER, F. E. Flat-surface grinders..... 308  
 Garratt locomotive..... 756  
 Gas and coal-dust suspensions, flame in, ignition and propagation of..... 1152  
 and oil conservation in the field (synopsis)..... 651  
 and oil-power engineering, progress in..... 1120  
 and oil turbines..... 45  
 blowing engines, economy of (synopsis)..... 651  
 engines, compression in..... 126  
 engines, Maryland plant of Bethlehem Steel Co..... 1007  
 engines, missing pressure in..... 292  
 -fuel problems..... 650  
 main, pressure in..... 290  
 power, oil and..... 230  
 power week, oil and, editorial..... 381  
 producer, Gerard..... 291  
 turbines..... 462  
 turbines, exhaust..... 355  
 Gaseous fluid, cooling previous to its compression..... 298  
 Gases, heat transfer in..... 747  
 radiation of..... 42  
 Gasoline engine, Andreau..... 292  
 tetraethyl, hazards of..... 519  
 Gate leakage, hydraulic turbines..... 352  
 GAYTON, L. D. Industrial use of oil engine (D)..... 257  
 Pumping-engine tests (D)..... 844  
 Gear, creeping, for gear cutter..... 207  
 cutting, hob for..... 293  
 drives in sheet mills..... 206  
 ground-tooth..... 583  
 hardened..... 582  
 internal, enveloping-type of..... 1154  
 pinions, dynamic stresses in rotating (C).... 138  
 spiral bevel, planing..... 854  
 teeth, effect of inaccuracy of spacing on strength of..... 29  
 -testing machine designed for A.S.M.E. research work..... 24  
 transmission, fluid..... 672  
 variable transmission, Hele-Shaw Beacham..... 1154  
 Gears, cast..... 583  
 herringbone, proposed standards for (C).... 62  
 metallurgical considerations of..... 584  
 noise in..... 583  
 proposed standards for herringbone (C).... 140  
 speed-reduction, machining large turbine... 207  
 spur, an investigation of the efficiency and durability of..... 874  
 GELLER, R. F..... 850  
 Generator problems due to crankshaft vibration..... 793  
 GENSECKE-JOSSE..... 931  
 GEPPERT..... 588  
 Gerard gas producer..... 291  
 German impressions of steam engineering in the U. S. A..... 674  
 law concerning temperature scales and heat units..... 134  
 Museum of Applied Science, opening of.... 775  
 Museum of Engineering, Science and Industry, review of book on..... 954  
 technical schools, education in standardization in..... 940  
 wind-power plants..... 849  
 Germany, competitive airplane flight around..... 666  
 Geysers, Cal., developing natural-steam wells at..... 1176  
 Giant power..... 309  
 GIBBONS, J. O. G. The scientific placement of young engineers (C)..... 770  
 GIBSON, A. J..... 1153  
 GIBSON, F. M. Oil burning under steam boilers (D)..... 280  
 GILBRETH, LILLIAN M. The present state of industrial psychology..... 1039  
 Gilkes patented shaft governor..... 928  
 GILL, J. W. Steam logging..... 815  
 Ginabat surface condenser..... 132, 294  
 GITHENS, T. F. Methods of indicating tolerance limits on drawings (C)..... 513  
 Glue evaluation, recent advances in methods of..... 1072  
 GODEL, A..... 291  
 GOEBEL, E..... 747  
 Gold from mercury and atomic energy, editorial.. 948  
 GOLDSBROUGH, G. R..... 931  
 GOLDSCHMIDT, PROF..... 752  
 GOOD, C. W., and MICKLE, F. A. Proposed standards for herringbone gears (C)..... 140  
 Goss, W. F. M. Turbo-locomotives (D)..... 243  
 GOUDIE, PROF. W. J..... 668  
 Government, National, educates for engineering..... 593  
 regulation..... 287  
 reorganizing engineering work of..... 384  
 Governor, shaft, Gilkes patented..... 928  
 Governors..... 352  
 Graduates, engineering, and engineering teaching personnel..... 1181  
 Graphical methods of calculation..... 1019  
 presentation, standards for..... 676  
 Gravity-temperature relations of petroleum oils, specific heat-specific..... 535  
 GRAY, PROF. J. G..... 753  
 GREAVES, R. H..... 937  
 GREENWOOD, G. W. The making of special slide rules..... 1002  
 GREGG, A. W. Steel-foundry management (D)..... 657  
 GREGG, DAVID..... 854  
 GRENNAN, J..... 501  
 GRESLEY, HERBERT N..... 756  
 GRIFFITHS, DR. EZER..... 360  
 Grinding, centerless..... 943  
 centerless, theory and practice of..... 695  
 machine, car-wheel lathe and..... 583  
 machines, flat-surface..... 308  
 GROTTIS, FRED..... 670  
 Ground-strafting airplane..... 1149  
 GRUNERT, A. E. Combustion control (D)..... 194  
 Guettner ammonia refrigerating compressor..... 927  
 Gyro compass incorporating two gyroscopes..... 212  
 Gyroscopic monorail car..... 753
- H**
- HAGEMANN, GEORGE E., and SHEPARD, JAMES A. Formulas for computing economies of labor-saving equipment..... 403  
 HAGEMANN, G. E. Simplified control methods in manufacturing (D)..... 336  
 Hair cracks in chromium steel..... 749  
 HALE, T. LAURENCE, and JONES, GEORGE F. The Ramsay condensing turbo-electric locomotive..... 235  
 HALL, H. H. Oil-tank-fire boilers..... 540  
 HALL, J. H. X-Ray examination of steel castings (D)..... 657  
 HALL, R. E..... 755  
 Hammer, Kango, electric percussion..... 752  
 Hammer-welded pipe..... 133  
 HAMMER, W. J. Helicopters (D)..... 268  
 HAMMOND, H. P. Engineering graduates and engineering teaching personnel..... 1181  
 HAMFSON, D. A. Indicating weights of castings on blueprints (C)..... 223  
 Handley-Page slotted airplane wing..... 349  
 Handling materials in the foundry..... 584  
 HANKINS, G. A..... 936  
 HARDIN, C. M. Air preheaters (D)..... 179  
 Hardness and hardness testing..... 53  
 ball, duration of loading and..... 133  
 definition of..... 935  
 numbers, Brinell..... 298  
 numbers, modified ball-indentation, a comparison of..... 732  
 stress-strain curves and physical properties pertaining to..... 917  
 tester, comparison of Herbert pendulum with other hardness testers, errata..... 73  
 testers..... 282  
 test research..... 935  
 tests, need for cheaper (C)..... 223, 363  
 HARPER, J. FLETCHER. Defects in large forgings. Closure to above paper..... 662  
 Harper, John Lyell, well-known hydraulic engineer, dies..... 75  
 portrait of..... 75  
 HARRINGTON, JOSEPH. Combustion control (D)..... 195  
 Water-cooled furnaces (D)..... 200  
 HARRISON, H. Flow of liquids (D)..... 334  
 Harvard University, report of progress in steam research at Harvard University..... 104  
 HAVER, A. H..... 294  
 HAWLEY, C. B. Parallel operation of hydro and steam plants (D)..... 731  
 Heat of the earth, internal..... 1176  
 radiation..... 41, 42  
 Research Bureau of the Association of German Iron Makers..... 41  
 subterranean..... 1175  
 subterranean, thermic calculation of..... 1177  
 transfer in gases..... 747  
 transmission of insulating materials..... 213  
 treatment of cast iron..... 669  
 treatment of large forgings..... 673  
 unit, Oehm..... 204  
 units, temperature scales and, German law concerning..... 134  
 waste, recovery of..... 502, 857  
 HEATON, H. C. Large steam turbines (D)..... 188  
 Water-cooled furnaces (D)..... 199  
 HECK, R. C. H. Supersaturation, editorial..... 863  
 HEILIGENSTADT, W..... 748  
 Heine boiler, bent-tube..... 1157  
 HELANDER, LINN. Increase in thermal efficiency due to resuperheating in steam turbines (D)..... 460  
 HELDT, T. M..... 754  
 Hele-Shaw variable-transmission gear..... 1154  
 Helical springs, manufacture of commercial steel..... 1053  
 Helicopter..... 125  
 Helicopters—production airplanes of metal—airial surveying equipment..... 266  
 Hell Gate Station, boilers at, patents on..... 1156  
 HELLER, C. W. Air preheaters (D)..... 181  
 HELLINGS, S. A. Die-Cast vs. machined parts.. 306  
 HENDERSON, SIR JAMES B..... 212  
 HENRIOT, E..... 669  
 HERBERT, E. G..... 505  
 HERBERT, F. D. Turbo-locomotives (D)..... 242  
 HERON, S. D. Air-cooled engine development.. 791  
 Herringbone gears, proposed standards for (C).... 140  
 recovery of..... 62, 758  
 HERRINGTON, A. W. S..... 114  
 HERSEV, M. D. Lubrication (D)..... 351  
 Heterophase impurities (corrosion)..... 931  
 HEUSER, L..... 931  
 HEYMANS, PAUL. Dynamic stresses in rotating gear pinions (C)..... 140



Interpretation of notched-bar impact-test results.....	916	HYMANS, F. Dynamic stresses in rotating gear pinions (C).....	138	JOHNSON, J. B. Aluminum and its light alloys (D).....	660
Torsion problem of curved beams.....	209	The rotating disk (C).....	224	JOHNSON, W. W. Increase in thermal efficiency due to resuperheating in steam turbines (D).....	460
HEYMAN, W. J.....	209			JONES, ADMIRAL HILARY P.....	671
High-head-turbine development, Oak Grove, of the Portland Electric Power Co.....	449	I		JONES, E. T. Achievements of American aircraft-engine industry.....	790
High-pressure bearing research.....	109	Ideal engineering meeting, editorial.....	70	JONES, F. E. Trend of oil-engine design.....	649
natural gas, correction to Boyle's law for... steam locomotive.....	897 71	Ignition and propagation of flame in gas and coal-dust suspensions.....	1152	JONES, GEORGE F., and HALE, T. LAURENCE. The Ramsay condensing turbo-electric locomotive.....	235
High-speed cutting of brass and other soft metals in standard machine tools.....	705	ILES, O. B. Future of machine-tool industry....	894	JONES, H. B. Pulverized coal (D).....	823
induction motors and frequency changers....	1012	ILLMER, LOUIS. High-pressure-bearing research..	109	JONES, J. A.....	937
HILDEBRAND, R. Solid-injection oil engines....	261	IMHOFF, WALLACE G.....	212	JONES, L. B. Turbo-locomotives (D).....	242
HILL, W. S. Hog fuel (D).....	775	Impact test, notched-bar.....	936	JONES, W. L. Recent advances in methods of glue evaluation.....	1072
HINES, FRANK T. (BRIG. GEN.). National Government educates for engineering.....	593	-test, notched-bar results interpretation of... Imperia automobile-engine valve gear.....	916 930	JORDAN, J. P. Production control (D).....	248
HOAGLAND, F. O. Formulas for computing economies of labor-saving equipment (C).....	61	Impulse wheels.....	352	JOSSE-GENESECKE.....	931
Hob, gear-cutting.....	293	Impurities in surface corrosion, "heterophase" and "homophase".....	351	Joule-Thomson effect, progress report on the... Journal lubrication, graphical study of.....	107 113
HOBBS, J. C. Pulverized fuel (D).....	229	Index to Volume 46 of MECHANICAL ENGINEERING, note on.....	74	JUNEAU, C. G. Some freight-car-maintenance problems.....	497
HOBLYN, J. B.....	356	India, factory administration in (C).....	859	Junkers airplane.....	202
HODGKINSON, FRANCIS. Air preheaters (D)..... honored by Franklin Institute in award of Elliott Cresson Medal.....	180 520	rubber insulation.....	204	JUNKERSFELD, COL. PETER. Safety in the operation of pulverized-fuel systems (D).....	115
Large steam turbines.....	186	Induction motors, high-speed.....	1012	Jupiter (Bristol) aircraft engine.....	502
HODGSON, JOHN L.....	213	Industrial and engineering standards, classification of.....	119		
HOGAN, JOHN P.....	285	engineering at Ohio State.....	867	K	
Hog-fuel conveyors.....	553	engineering to be taught at Lehigh.....	683	Kango electric percussion hammer.....	752
fuel—logging—newsprint manufacture.....	773	-furnace efficiency.....	1061	KANZLER, H.....	931
fuel, settings for boilers burning.....	552	furnaces.....	1065	KATES, E. J. Progress in oil- and gas-power engineering.....	1120
HOLLIS, DR. IRA N., and EARLE, CAPT. RALPH, portraits of.....	1174	plants, storage and handling of fuel oil in... power, supply of.....	272 993	KATTE, E. B. Oil-engined locomotives (synopsis).....	648
HOLLNAGEL, H. P. Stress-strain curves and physical properties pertaining to hardness.....	917	psychology, present state of.....	1039	KEENAN, J. H. Discussion of steam-research reports.....	174
Holman, M. L., past-president of A.S.M.E., dies at age of seventy-three.....	152	training, industry's interest in.....	94	KEITH, ROBERT R. What we want in machine tools.....	306
HOLST, L. J. R. Equipment used for aerial surveying (C).....	303	<i>Industrial Psychology</i> , new journal to be issued... Industries, education and training for.....	521 94	KELLER, J. F. Why metal warps and cracks....	919
Holyoke turbine tests, European and.....	286	discussion of papers on.....	101	KELLER, J. O. Closure to discussion on hardness testers.....	284
Homeyard hydraulic valve.....	581	Industry, elimination of unnecessary fatigue in... technical training in.....	418 1095	Simplified control methods in manufacturing (D).....	334
"Homophase" impurities (corrosion).....	351	training for, and the public program of vocational education.....	98	KEMP, F. I. Diesel engine as drive for pumps and compressors.....	744
Hood, O. P. Progress in fuels engineering.....	1124	Industry's interest in industrial training.....	94	KENNEDY, J. J.....	359
HOPPER, S. J. Factory administration in India (C).....	860	Injection, spring, in oil engines.....	853	KENNEDY, ROY J.....	850
<i>Horatio Allen</i> , high-pressure steam locomotive... HOSSACK, A.....	72 297	Injectors and pumps for feeding steam boilers... Inspection methods.....	931 55	KENNEY, LEWIS H.....	207
Hot wall, action of, corrosion of boiler and condenser tubes and.....	351	Instruments and apparatus, test code on (Chap. 21 on condenser-leakage tests).....	920	KENT, R. H. Aluminum and its light alloys (D)....	661
HOVGGAARD, PROF. WM.....	753	Instruments and apparatus, test code on (Chap. 3 on temperature measurement).....	1161	KENT, ROBERT T. Production control (D).....	248
HOWARD, DR. J. V.....	202	Insulating materials, heat transmission of.....	213	Progress in management engineering.....	1119
HOWARTH, H. A. S. Graphical study of journal lubrication.....	113	Insulation, balsam-wool.....	581	KERR, PROF. W.....	675
Lubrication (D).....	114	high-temperature.....	147	KEYES, F. G. Report on progress in steam research at Massachusetts Institute of Technology.....	105
HOWLAND, J. H. Standardization to prevent conflagration.....	680	india rubber, cellular.....	204	Keys, shafting and, American standards, ready for distribution.....	939
Howlett, L. G. Aluminum and its light alloys (D).....	661	Insull, Samuel, heads National Museum of Engineering and Industry.....	688	KIDDER, WALTER M. Simplified control methods in manufacturing (D).....	335
Hoxie, William D., dies suddenly.....	231	Interchangeable manufacture, unilateral and bilateral tolerances as applied to.....	485	Kiln stoker, automatic.....	204
photograph of.....	231	International critical tables soon to be published... standard power test codes.....	1140 939	KIMBALL, DEXTER S. What is an engineer and how much pay should he receive? editorial Book review of Employees' Representation in Steel Works.....	516 690
HUGUENARD, E.....	669	Iron alloys, physico-chemical properties of... carbonyl as a substitute for lead tetraethyl... castings, fire-resistant.....	339 1152 580	KIRKHAM, C. B. Production airplanes of metal (D).....	269
HULTGREEN, A.....	749	pure, making it commercially wrought, new processes for making.....	900	Kirsten-Boeing airplane propeller.....	506
Hunt self-paralleling alternator.....	748	IRWIN, P. L. Lubrication (D).....	1113	KLEINSCHMIDT, R. V. Report of progress in steam research at Harvard University....	104
Hunter carburetor.....	354	Italian works on hydraulic engineering presented to Library, notable.....	387	KLEMIN, ALEXANDER. Beginning of American air transport, editorial.....	862
HUNTER, JOHN. Water-cooled furnaces (D)....	200			The Savenius wing rotor.....	911
HUNTER, JOHN A.....	587	J		KLEUCKER, G. M. Oil engine in refrigerating practice.....	744
HUSON, W. Progress in printing as related to mechanical engineering.....	1135	JACKSON, D. C. Education and training for the industries (D).....	102	KLINE, WALTER J. Pulverized coal (D).....	227
HUTCHINSON, E. C. Oak Grove high-head turbine development of Portland Electric Power Co.....	449	JACOBSON, A. A. Turbo-locomotives (D).....	242	KLOPSTOCK, HANS. Investigations in turning and planing.....	474
Hydraulic engineering, notable Italian works on, presented to Library.....	387	JACOBSSON, C. A. Air preheaters (D).....	182	Knecht turbo atomizer.....	931
transmission.....	359	JACOBUS, D. S. Oil burning under steam boilers (D).....	280	KNERR, H. C. Aluminum and its light alloys (D).....	660
-turbine design, mechanical problems of... turbines for New Zealand.....	469 928	Japan, standardization in.....	858	Knudsen Diesel engine.....	503

KRAUSE, DR. M.	927
KREISINGER, HENRY. Air preheaters (D)	179
A review of recent applications of powdered coal to steam boilers	19
Krupp Diesel engines	672, 750, 851
KRUTTSCHNITT, JULIUS. The engineer as a railroad executive	313
KUBOWSKY, KURT	850
KURTZ, H. F. Principles and advantages of optical methods for measuring machine parts	987

## L

Labor-saving equipment, an application of the formulas for computing economies of	408
equipment, formulas for computing the economies of	403
equipment, formulas for computing economies of (C)	59
equipment in road construction	414
LACHER, WALTER S.	755
LaGabelle hydroelectric plant	286
Lake, a sixth Great, note on	1169
waters for condensers	809
Lake Shore Station, Cleveland, test of pulverized-fuel-fired boilers at the	25
Lakeside Station, comparison of actual performance and theoretical possibilities of the	811
Lancashire and Cheshire Coal Owners' Association	1152
LANCHESTER	210
LANG, FRANZ	856
LANGENBERG, F. C. Cold working on hollow cylinders—elastic strength increased by enlargement of bore	919
X-Ray examination of steel castings (D)	659
LANGFORD, GEORGE, JR. An application of the formulas for computing economies of labor-saving equipment	408
Lapping, commercial cylindrical	1106
precise cylindrical	701
LARKIN, WM. H. Supply of industrial power	993
Lathe and grinding machine, car-wheel	583
full-automatic, economic efficiency of, in comparison with semi-turret lathe	411
tools, experiments on	505
turret, increasing capacity of, by offset chuck	127
Lauf-Thoma fluid-transmission gear	673
Lautal alloy	44
Layer, boundary (skin friction)	210
LEA, PROF. F. C.	666
Lead poisoning in ship-scraping yards, note on	544
tetraethyl of	598
Least work, principle of	753
Leather belting, tentacular	127
polishing, development of a domestic	141
LEE, EVERETT S.	857
Lehigh University, industrial education to be taught at	683
LENT, H.	748
LESSLIS, J. M.	666
Critical pressures in lubricating-oil films (C)	363
LESSING, DR. R.	1151
LEWIS, WILFRED. Gear-testing machine designed for A.S.M.E. research work	24
LEWIS, W. D. "Engineman" or "engineer?" (C)	678
Library of U. E. S. and its service	387
notes and book reviews	76, 153, 232, 310, 387, 524, 603, 690, 780, 868, 954, 1188
LICHTENBERG, E. H., and SHEPARD, JAMES A. Labor-saving equipment in road construction	414
Lieb, John W., member of advisory committee on standardization	385
portrait of	385
Lima locomotive	587, 673
Lime and soda-ash method of water treatment	1156
kilns, rotary	857
Limits, system of, for different kinds of fits	901
Lincoln sleeve-valve engine	45
LINDSAY, D. C., and CARRIER, W. H. Temperatures of evaporation of water into air	327
Linisher	293
LINSLEY, I. N. Investigation of critical bearing pressures causing rupture in lubricating-oil films	110
Liquids, viscosity of, under pressure	1155
LISTON, JOHN	288

LOCKWOOD, E. H. Test of Prosser-type reciprocating steam engine (D)	253
Locomotive, Delaware & Hudson Co.	132
Diesel, Baldwin	503, 1157
Diesel, Krupp	672
Diesel-hydraulic	648
Locomotive, electric, Detroit, Toledo and Ironton	50
electric, Diesel, built for Russia	212
electric, Ford Road	934
Fairlie, modified	757
fireless	50
fuel and its combustion on	757
Garratt	756
high-pressure steam	71
influence of, upon the unity of our country	1103
Lima	587, 673
oil-engined	648
Ramsay condensing turbo-electric	235
steam, factors concerning economics of shopping	419
steam, testing	50
testing plant and its influence on steam-locomotive design	881
three-cylinder, tests of	756
turbines on	757
LOEFFLER, F. K. Industrial use of oil engine (D)	260
Logging, electric	820
machinery used on the Pacific coast	913
overhead-cableway method of	527
steam	815
Logging—newsprint manufacture—hog fuel	773
LONGENECKER, CHAS.	857
Loree, L. F., member of advisory committee on standardization	385
portrait of	385
LOVELL, R. G. Conservation in the refinery	652
Low, F. R.	755
An ideal engineering meeting	70
Power resources, present and prospective	1
Tests of a uniflow engine (D)	845
LUBOWSKY, KURT	850
Lubricants and lubrication	887
Lubricating-oil film, an investigation of critical bearing pressures causing rupture in	110
oil films, critical pressures in (C)	363
oils, behavior under oxidizing tests	356
Lubrication, cylinder and engine	751
discussion of papers forming symposium on	113
journal, graphical study of	113
of Diesel engines	265
symposium on	109
LUCKEY, G. P. Earth-induction compass	795
LUDY, L. V. Test of Prosser-type reciprocating steam engine	249
Lumber-manufacturing plants, combustion of wood waste from	545
standards for, should represent the best	512
LYNCH, T. D. Defects of large forgings (D)	662
LYON, A. H. Heavy milling machines	307

## M

McAdam, JR., D. J. Aluminum and its light alloys (D)	660
Endurance properties of metals	566
McAdams, W. H. Water-cooling-system efficiency (D)	333
McAULIFFE, SIDNEY J.	587
McCABE, F. E. Education and training for the industries (D)	101
McCook Field, aeronautical engineering at	790
McDONNELL, M. E. Rustproofing of materials	875
McFARLAND, WALTER M. An appreciation of Asa Martines Mattice	779
Admiral George Wallace Melville; a great leader of the engineering profession	85
Oil burning under steam boilers (D)	277
McPHIE, J. J.	208
Machine design, the elements of, book review of design, principles of (C)	1165
design, principles of, book review of	955
design, the question mark in	1009
Machine parts, measuring, optical methods for	987
-production costs, elements in lowering	248
-shop industry, standardization in the	772
-Shop Practice Division, A.S.M.E., opportunity of the, editorial	776
-shop practice, progress in	1115
-shop sessions at New Haven	770, 946

-tool design, trend of, from user's standpoint	306
-tool exhibition, New Haven	867
-tool industry, future of	894
-tool meeting, Chicago Section	306
tools and production costs, editorial	77
tools, high-speed cutting of brass and other soft metals in standard	705
tools, standardization of	614
Machinery, cleaning, spray method of	752
Machining brass rod, problems encountered in	1110
MACLAGAN, J. C. M.	356
Maclaurin process of making smokeless fuel	126
MACLEOD, DR. D. B.	938
and its alloys	796
Magnesium as engineering material	288
MAHL, F. W. Diesel-hydraulic locomotive (D)	648
Maine, tide-power plant for, note on	746
MALCOLM, V. T. Metallurgical developments in valve and fitting industry	1141
MALCOLM, V. T., and SPROAT, A. X-Ray examination of steel castings (D)	658
Malleable and cast-iron screwed fittings, proposed American standards for	117
Malleableizing of cast iron, short-time	623
Malolo, high-pressure boilers on the	1155
Management engineering, progress in	1119
steel-foundry	653
Manganese bronze, composition	668
Manhole frames and covers, standardization of	362
Manufacture, interchangeable, unilateral and bilateral tolerances as applied to	485
Manufacturing, simplified control methods in	334
MARKS, L. S., and DANILOV, M. Gas turbines	462
MARTIN, JOHN D.	205
MARTIN, K. L. Fuel oil in commercial buildings of New York (D)	489
Oil burning under steam boilers (D)	279
Maryland plant of Bethlehem Steel Co., gas engines of	1007
Mass, equivalent	930
Massachusetts Institute of Technology	1159
course in military engineering at	866
progress of steam research at	105
Materials, effect of low and high temperatures on	664
-handling problems and their solution	973
handling, progress in	1116
Standard Specifications and Methods of Test for Materials, book review of	690
testing, A.S.T.M. activities in	1178
under extreme temperatures, editorial	71
Matter, properties of, under high pressure	161
under high pressure, properties of (C)	513
MATTERN, J. C. Engineering standards (D)	557
Mattice, Asa Martines, an appreciation of, by Walter M. McFarland	779
MAWHINNEY, M. H. Oil-burning equipment for industrial furnaces	916
MAYNZ, THEO.	211
MAYOH, FRANK H.	511
MEADOWCROFT, J. W.	1160
Measurement, units of, circular, cylindrical and spherical (C)	302
Measuring economies, editorial	70
instruments, electrical, springs for	1057
machine parts, principles and advantages of optical methods for	987
systems and tolerance limits	903
Mechanical engineering, progress and prospects in (Professional Division Reports)	1115
engineers, metallurgy for, editorial	380
engineers, principles of metallurgy of ferrous metals for	339, 479, 559, 637, 735, 832
features affecting the reliable and economical operation of hydroelectric plants	825
springs	258
springs, a code of design for	713
Meeting, an ideal engineering, editorial	70
MELLANBY, PROF. A. L.	675, 1154
Melville, Admiral George Wallace: a great leader of the engineering profession	85
Mercury and atomic energy, gold from, editorial	948
Metallurgical developments in valve and fitting industry	1141
Metallurgy for mechanical engineers, editorial	380
of ferrous metals for mechanical engineers	339, 479, 559, 637, 735, 832
principles of	339, 479, 559, 637, 735, 832
Metals, breakdown by fatigue	666
crystalline structure of	479
cutting, editorial	304
cutting, flow and rupture during	751



- endurance properties of..... 566  
ferrous, principles of metallurgy of, for mechanical engineers 339, 479, 559, 637, 735, 832  
flow and rupture during cutting..... 751  
hardness at high temperatures..... 665  
loops obtained with extension recorder from mechanics of failure of..... 201  
soft, brass and other, high-speed cutting of... 705  
temperature and behavior of..... 664, 936  
METZ, JOHN J. Apprenticeship (D)..... 626  
MEYERS, C. H..... 591  
Michell crankless engine..... 356, 1153  
MICKLE, F. A., and GOOD, C. W. Proposed standards for herringbone gears (C)..... 140  
Military engineering, course in, at M.I.T..... 866  
MILLER, FRED J. Production control (D)..... 248  
Book review of Employees' Representation in Coal Mines..... 781  
Review of biography on Frederick W. Taylor 153  
MILLER, SPENCER. The overhead-cableway method of logging..... 527  
Turbo-locomotives (D)..... 242  
MILLER, S. W. Welding on boilers..... 1148  
Milling cutters..... 505  
machine, finishing small surfaces in the... 307  
machines, heavy..... 307  
Milwaukee, A.S.M.E. Spring Meeting at that city breaks records for attendance..... 521  
pumping-engine tests and sewage disposal at... 837  
MINAMIOJI, KENICHI..... 1153  
Mines, Bureau of, transferred to the Department of Commerce..... 689  
de Bruay, France..... 357  
MING, F. W. Some elements of drafting-room practice that may be standardized..... 346  
Mining and Metallurgical Engineers, American Institute of, H. Foster Bain appointed secretary of..... 682  
holds annual meeting..... 309  
Mining Congress, American, now a member of A.E.S.C..... 677  
Mirlees oil engine..... 853  
M. L. C. An American tribute to the Unknown Soldier of Czechoslovakia (C)..... 678  
MOCHEL, M. L. Defects of large forgings (D)..... 662  
Modjeski, Ralph, elected to Academy of Sciences 520  
MOHLMAN, F. W. Activated-sludge sewage disposal (D)..... 840  
Moist air, chart for determining the weight of... 492  
Molder, electric..... 984  
Molds, impregnating iron of, with zinc..... 581  
Monel metal, resistance to shock..... 51  
Monitor-type corrugated ship..... 294  
Monorail car..... 752  
MOODY, LEWIS F..... 285, 354  
Moody's diagonal type of turbine runner..... 285  
MOORE, H. F. Lubrication (D)..... 113  
Mechanics of failure of metals..... 919  
MOORE, HAROLD T. Influence of plant design on plant efficiency..... 1059  
Storage and handling of fuel oil in industrial plants (D)..... 272  
MOORE, R. R. Fatigue of welds..... 794  
MORDEN, C. W. Hog fuel (D)..... 775  
Technical features of high-speed newsprint manufacture..... 495  
MOREHEAD, F. H. X-Ray examination of steel castings (D)..... 657  
MORRISON, L. H. Industrial use of the oil engine..... 255  
Oil engines in plants requiring steam (synopsis)..... 650  
Mortar, Thermonit..... 580  
MORROW, D. G., and WOHLBERG, W. J. Radiation in the pulverized-fuel furnace..... 627  
MOSS, DR. H..... 504  
MOSS, SANFORD A. Centrifugal compressors for Diesel engines..... 1075  
The United States air-mail service..... 148  
Moth, aeroplane..... 580  
"Mother-of-coal"..... 750  
Moto-Trud (Russian tractor)..... 670  
Motor, Andreau gasoline..... 292  
cars, steam..... 360  
drive, a. c. reversing, for planers..... 583  
-fuel situation..... 649  
fuel, synthetic..... 851  
high-speed induction, and frequency changers 1012  
-sales saturation point..... 758  
-vehicle fuel, natural gas under very high pressure as..... 291  
Motorships of tomorrow, oil fuel for..... 208  
MOULDER, A. W..... 1160  
MOULLIN, E. B..... 504  
MOULTROP, I. E., and NORRIS, E. W. The X-ray examination of steel castings..... 393  
MOYLE, E. C..... 357  
MUELLER, H. G. Test of a Prosser-type reciprocating steam engine (D)..... 253  
MUELLER, P. M. Precise cylindrical lapping... 701  
MÜNZINGER, FRIEDRICH..... 674  
MUHLFELD, JOHN E..... 212  
Mult-Au-Matic, four-spindle, Buillard..... 208  
Mumford oil engine..... 852  
MUMFORD, A. R. Boiler furnaces for pulverized coal (D)..... 636  
Recent developments in the burning of anthracite (D)..... 577  
MUNK, MAX M. Helicopters (D)..... 267  
MUNTERS, CARL..... 588  
Munters-Platen refrigerator..... 588  
Muscle Shoals, commission on, President appoints..... 384  
editorial..... 304  
power possibilities at, review of paper on... 685  
Museum of engineering, an American..... 865  
of engineering, science and industry, German, review of..... 954  
MYRICK, G. H. Safety in the operation of pulverized-fuel systems (D)..... 116
- N
- NAGLER, FORREST..... 285, 353  
Mechanical features of hydroelectric plants (D)..... 831  
Operation of hydroelectric units..... 308  
NATHAN, SIR FREDERICK..... 501  
National apprenticeship program..... 416  
defense, engineering problems of..... 33  
Fuel Research Station..... 1152  
Nation's wood lot, editorial..... 71  
Natural gas, high-pressure, correction to Boyle's law for..... 897  
gas, under very high pressure, as a motor-vehicle fuel..... 291  
Navy aircraft, U. S., power plants for..... 783  
compound..... 1156  
NEFF, E. H. Apprenticeship (D)..... 626  
NELIS, JOSEPH J. Oil burning under steam boilers (D)..... 276  
Test of Prosser-type reciprocating steam engine (D)..... 253  
New Haven, machine-shop sessions at..... 770, 946  
machine-tool exhibition..... 683, 867  
New Zealand, hydraulic turbines for..... 928  
NEWBURY, F. D. Recent developments in hydroelectric generators..... 309  
Newsprint manufacture—hog fuel—logging..... 773  
manufacture, technical features of high-speed..... 495  
New York-Chicago air-mail service starts..... 688  
fuel oil in commercial buildings of..... 487  
University, new school of aeronautics at... 680  
Niagara Falls power pioneers, bronze tablet commemorates..... 151  
NICHOLLS, P..... 213  
Nichrome, castings strengthened by addition of... 850  
NOACK, W. G..... 1159  
Noise, automobile, measurement of..... 758  
in gears..... 583  
Non-standardized products, cost of..... 598  
NORMAN, C. A. Principles of machine design (C)..... 1165  
The tension ratio and transmissive power of belts..... 1111  
NORRIS, E. W. Aluminum and its light alloys (D)..... 661  
Mechanical design of Weymouth power station..... 719  
NORRIS, E. W., and MOULTROP, I. E. X-ray examination of steel castings..... 393  
Closure to above paper..... 659  
Norton, Charles, H., Scott Medal awarded to... 689  
NORTON, J. T. X-Ray examination of steel castings (D)..... 659  
Notched-bar impact test..... 936  
impact-test results, interpretation of..... 916  
Nozzles, steam, pipe losses in..... 674  
steam, research..... 777
- Nuts, bolts and rivets, substantial progress made in standardization of..... 142  
NYDEGGER, P. F. Engineering standards (D).... 557
- O
- Oak Grove high-head-turbine development of Portland Electric Power Co..... 449  
OAKLEY, W. W. Storage and handling of fuel oil in industrial plants (D)..... 273  
OBERG, ERIK. Apprenticeship (D)..... 626  
Oehm heating unit..... 204  
OGUR, EUGENE..... 672  
Ohio State University, industrial engineering at... 867  
Oil and gas conservation in the field (synopsis)... 651  
and gas power..... 648  
and gas-power engineering, progress in..... 1120  
and gas power week..... 230  
and gas power week, editorial..... 381  
and gas power week, note on..... 309  
and gas turbines..... 45  
-burning boilers, refractories for..... 299  
-burning equipment for industrial furnaces... 916  
burning under steam boilers..... 276  
-cracking methods, modern..... 11  
engine, Beardmore aircraft..... 502  
-engine design, trend of..... 649  
-engine developments, recent..... 852  
-engine, heavy-, trials, codes for recording... 590  
engine, industrial use of the..... 255  
engine in refrigerating practice..... 744  
-engined locomotives..... 648  
engines, adapting waste-heat reclaimers to... 502  
engines as a drive for pipe lines..... 743  
engines, heavy-, trials, codes for recording... 590  
engines in flour-mill operation..... 743  
engines in plants requiring steam..... 650  
engines, industrial applications of..... 743  
engines, piston speed of, limit of..... 1153  
engines, solid-injection..... 261  
engines, spring injection in..... 853  
engines, waste-heat reclaimers for..... 502  
fuel, and its supply..... 649  
fuel, atomizing, cost of..... 357  
fuel, Diesel, centrifugal treatment of..... 750  
fuel for motorships of tomorrow..... 209  
fuel, in commercial buildings of New York... 487  
fuel, in industrial plants, storage and handling of..... 272  
industrial use of..... 255  
lubricating, under oxidizing tests..... 356  
petroleum, specific heat-specific gravity-temperature relations of..... 535  
pumping, performance of centrifugal pumps when pumping oil..... 297  
resource possibilities, note on..... 804  
separator for purifying ballast water discharged from ship fuel-oil tanks..... 645  
separator, Vicker centrifugal..... 905  
-shale distillation plant, Trumble..... 581  
-tank-fire boilers..... 540
- OLSON, N. C. Feature of design in latest large hydroelectric generators..... 309  
One hundred per cent, efficiency of more than... 770  
Open-hearth furnace with furnace pressure control 589  
Optical methods for measuring machine parts, principles and advantages of..... 987  
O'REILLY, G. A. The world economic situation. 745  
ORROK, GEO. A..... 285  
Thermic calculation of subterranean heat... 1177  
OSBORNE, M. M. Storage and handling of fuel oil in industrial plants (D)..... 273  
OSBORNE, N. S., and STIMSON, H. F. Report of progress in steam research at the Bureau of Standards..... 106  
OSTERTAG, PROF. C..... 289  
Otheograph, use in rail-joint tests..... 297  
Outboard marine engine, *Watermota*..... 1155  
Overhead-cableway method of logging..... 527  
OXFORD, C. J. Standardization in the machine-shop industry..... 772
- P
- Pacific coast, logging machinery used on the.... 913  
Packard aircraft engines..... 349  
Packing, density of..... 360  
Paints, anti-corrosive..... 1150



- PALM, ROBERT. Safety in the operation of pulverized-fuel systems (D)..... 115
- Pan-American standardization conference..... 361
- Paper and pulp mills, safety code for, note on..... 1166
- Parallel operation of hydro and steam plants..... 727
- PARKER, J. W. Pulverized fuel (D)..... 229
- PARKER, McREA. Application of engineering principles to economic problems in the textile industry (D)..... 274
- Parsons oil engine..... 852
- Parsons, Sir Charles A., elected to Academy of Sciences..... 520
- PATART, GEORGES..... 298
- Patent Office..... 384
- administration and housing..... 1172
- differential-pressure steam-generating system, contest over..... 507
- procedure..... 949
- Patents, Columbia University to administer..... 521
- committee, A.E.C., increased compensation for Federal judges urged by..... 75
- on boilers at Hell Gate Station..... 1156
- PATRICK, GEN. M. M. Air Service..... 667
- PEARCE, J. W. B. Method of indicating tolerance limits on drawings (C)..... 302
- PECK, E. C. Standardizing drafting-room practices, editorial..... 380
- System of limits for different kinds of fits (C)..... 1165
- PEEBLES, T. A. Combustion control..... 193
- PRETS, W. J. Engineering standards (D)..... 558
- Theory and practice of centerless grinding..... 695
- PEIRCE, W. M. Die casting (C)..... 141
- Pelton-wheel design..... 1153
- PELTZ, G. H. Oil burning under steam boilers (D)..... 280
- Pelumina cement..... 501
- Pennsylvania Railroad, the story of..... 1097
- PENROSE, CHARLES. Objections to giant power scheme for Philadelphia..... 309
- PERKINS, GEO. H. Progress in textile mechanical engineering..... 1139
- Permanent molds, castings in..... 581
- PERRET, F. A. A comparative study of the various forms of volcanism as sources of power..... 1178
- Petroleum engineering, progress in..... 1126
- industry, standardization in the..... 362
- oils, specific heat-specific gravity-temperature relations of petroleum oils..... 535
- situation, engineers and the American..... 5
- PETTBONE, W. W. Pulverized fuel (D)..... 227
- PISTERER, G. E. Air preheaters (D)..... 182
- Philadelphia, hydroelectric symposium at..... 308
- PHILBRICK, HERBERT S. Uniflow and compound duoflow engines (D)..... 192
- PHILLIPS, C. B. Industrial gas (synopsis)..... 650
- Phoran—a diamond-hard alloy..... 748
- Photographic measurement..... 857
- Physico-chemical properties of iron alloys..... 339
- PIGOTT, R. J. S. Air preheaters (D)..... 178
- PINARD, F..... 502
- Pinard-Sala system of harnessing tides..... 501
- Pinions, rotating gear, dynamic stresses in (C)..... 138
- Pipe, blast-furnace-slag..... 51
- bursting forces acting on..... 209
- carrying steam up to 800 deg. Fahr., rational design of covering for..... 805
- cast-iron, large-diameter, centrifugal casting of..... 581
- covering, design for pipe carrying steam up to 800 deg. Fahr..... 805
- flow, measurement by coordinate method..... 326
- hammer-welded..... 133
- line dredge *Clackamas*, Diesel-electric..... 605
- line, oil engine as a drive for..... 743
- steam, for extra high pressure and temperature..... 357
- steel, planing plates for..... 207
- transmission of air waves through..... 1150
- Piping, power-plant, gas welding in shop..... 1159
- pressure, A.S.M.E. Code for..... 1160
- steam, elastic capacity of, as affecting expansion..... 131
- steam, nomogram for calculating..... 508
- Pistolesi variable-pitch airscrew (propeller)..... 500
- Piston rings, friction of..... 206
- speed of oil engines, limit of..... 1153
- Pitot tube, interference tests on a..... 857
- Pitting of turbine runners..... 353
- PLACE, C. W. Parallel operation of hydro and steam plants (D)..... 731
- Planers for large surfaces..... 307
- reversing a c. motor drive for..... 583
- Planing, spiral bevel gears..... 854
- steel plates..... 207
- turning and, investigations in..... 474
- PLANK, PROF. R..... 927
- PLANT, L. G..... 857
- Plant design, influence of, on plant efficiency..... 1059
- efficiency, influence of plant design on..... 1059
- Plastic refractories, note on..... 515
- Plates, steel, planing..... 207
- PLUNKETT, CHARLES T. Application of engineering principles to economic problems in the textile industry (D)..... 275
- POLAKOV, WALTER N. Carbon dioxide as an index of fatigue..... 1043
- Oil burning under steam boilers (D)..... 281
- POLHEMUS, J. H. Diesel-electric pipe-line dredge *Clackamas*..... 605
- Politics, engineer in..... 1173
- PORTEVIN, ALBERT..... 669
- Portland cement centennial..... 73
- Electric Power Co., the Oak Grove high-head-turbine development of the..... 449
- regional meeting..... 683
- Porto Rican Railroad..... 360
- Powdered coal. See Pulverized coal.
- POWELL, E. B. Burning of anthracite (D)..... 579
- Oil burning under steam boilers (D)..... 278
- Power boilers, suggested rules for the care of..... 371
- boilers, suggested rules for the care of, note on..... 515
- comparative study of various forms of volcanism as sources of..... 1178
- development, progress in the art of..... 185
- equipment, present and future, note on..... 93
- generation, review of report of A.I.E.E. committee on..... 684
- giant..... 309
- industrial, supply of..... 993
- meeting at Chicago, second annual..... 229
- plant construction, bolts for use in..... 1034
- plant performance, analysis of, based on second law of thermodynamics..... 426
- plant, steam, wood waste as fuel in..... 545
- plants, Diesel engine in small and medium-sized..... 18
- plants for U. S. Navy aircraft..... 783
- resources, present and prospective..... 1
- station, Weymouth, mechanical design of..... 719
- test codes, international standard..... 939
- week, oil and gas..... 230
- Precise cylindrical lapping..... 701
- Preferred numbers committee, new activities of the A.E.S.C..... 222
- numbers, Japanese adopt..... 858
- Preheaters, air..... 175
- Pressure control, open-hearth furnace..... 589
- gage, Bourdon-tube..... 128
- high, properties of matter under..... 161
- high, properties of matter under (C)..... 513
- measurement of..... 212
- missing, in gas engines..... 292
- vessels, unfired. See Unfired pressure vessels.
- Priming of boiler water..... 49
- Printing, progress in, as related to mechanical engineering..... 1135
- Process-steam generation, electric power as by-product of..... 210
- PROCTER, CAPT. A. M..... 668, 1153
- Production control..... 243
- costs, machine tools and, editorial..... 777
- of machines, elements in lowering costs of..... 248
- Professional Divisions 1925 reports on progress for the year..... 1115
- Progress and prospects in mechanical engineering (Professional Division Reports)..... 1115
- in art of power development..... 185
- in mechanical engineering, editorial..... 1171
- under compulsion, editorial..... 777
- PROKOFIEFF, I. M..... 209
- Propeller, Kirsten-Boeing..... 506
- Pistolesi variable-pitch..... 500
- PROSSER, J. G. Test of a Prosser-type reciprocating steam engine (D)..... 253
- Prosser-type reciprocating steam engine, test of..... 249
- Protesting gesture (of Chicago engineering employees)..... 681
- Psychology, industrial, present state of..... 1039
- Public service, engineers in, editorial..... 1171
- Pulitzer race of 1925..... 950
- Pulverized coal, applications of, to test boilers, a review of recent..... 19
- coal as a boiler fuel, development of..... 89
- coal at Cahokia..... 271
- coal, boiler furnaces for..... 632
- coal burning at the Detroit Edison Company's Trenton Channel plant..... 271
- coal installation Baldwin Locomotive Works..... 933
- coal, microscopic study of..... 429
- coal, preparation of..... 87
- coal, stokers vs..... 586
- coal, testing fineness of..... 822
- fuel, Cleveland symposium revealed successful use of..... 227
- fuel-fired boilers at Lake Shore Station, Cleveland..... 25
- fuel furnace, radiation in..... 627
- fuel, operating experiences in..... 271
- fuel plant..... 587
- fuel systems, safety in operation of..... 115
- Pulverizer, the development of a unit..... 1047
- Pulverizing plant, coal-, and its operation, the unit..... 183
- Pumps, centrifugal, performance when pumping oil..... 297
- for feeding steam boilers..... 931
- gasoline feed, a new, note on..... 270
- vacuum, steam-jet condensing-type..... 211
- Pumping-engine tests and sewage disposal at Milwaukee..... 832
- engine, duty tests of vertical triple-expansion, at Milwaukee..... 841
- Pumps and compressors, Diesel engine as a drive for..... 744
- test code for centrifugal and rotary..... 214
- test code for reciprocating steam-driven displacement..... 135
- Punching angle bars, machine for..... 294
- PUPIN, M. I. Carnot's principle..... 38
- Purifying ballast water discharged from ship fuel-oil tanks, an oil separator for..... 645
- Q**
- Quench-hardening of steel rails..... 855
- Quenched bolts and rivets..... 510
- R**
- Radiation, heat..... 41, 42
- in pulverized-fuel furnace..... 627
- Radio standardization..... 58
- RAES, AUGUSTE C..... 508
- Rail-joint tests, theograph in..... 297
- section, Reading Company..... 934
- Railplane system of transport..... 939
- Railroad apprenticeship in a national apprenticeship plan, the place of..... 624
- executive, the engineer as a..... 313
- mechanical engineering, progress in..... 1132
- meeting at Altoona, distinctive..... 951
- men, editorial..... 949
- Railroading, engineering in, editorial..... 382
- Rails, shattered zones and transverse fissures in..... 749
- steel, quench-hardening of..... 855
- wear of..... 359
- Railway as an economic force..... 1101
- centenary celebrations..... 712
- motor cars, Porto Rico..... 360
- motor cars, steam, Sentinel-Cammell..... 856
- RAMSAY..... 937
- Ramsay condensing turbo-electric locomotive..... 235
- Rath spiral bevel-gear planing..... 854
- Rational design of covering for pipes carrying steam up to 800 deg. Fahr..... 805
- RAYMOND, A. A. Gas engines of Maryland plant of Bethlehem Steel Co..... 1007
- REA, SAMUEL. American transportation..... 871
- Reading Company, rail section..... 934
- Reciprocating steam-driven displacement pumps, test code for..... 135
- steam engine, test of a Prosser-type..... 249
- REHS, O. T..... 1156
- Refractories for oil-burning boilers..... 299
- plastic, note on..... 515
- Refractory material, furnace ash as a..... 1150
- Refrigerating Engineers, American Society of, Insulation Committee of..... 213
- Refrigerating practice, the oil engine in..... 744

## S

- systems, test code for..... 365
- Refrigeration Research in England..... 360
- session of A.S.M.E. Annual Meeting, discussion at..... 332
- without moving parts, Munters-Platen..... 588
- Refrigerators, household, standardization postponed..... 858
- Regenerative feed heating by superheated steam..... 129
- REID, ELLIOTT G..... 857
- REINICKER, N. G. Burning of anthracite (D)..... 579
- REITZ, WILHELM..... 582
- Research, aeronautic, to be undertaken by American Engineering Council..... 518
- A.S.T.M. establishes medal for..... 520
- fuel, cooperative, progress in..... 291
- fuel, in Europe..... 1152
- fundamentals of..... 886
- high-pressure-bearing..... 109
- in engineering education..... 386
- laboratory, mining, at University of Birmingham..... 1152
- method for blast furnaces..... 212
- outstanding developments in fuels engineering and, during 1924..... 145
- refrigeration, in England..... 360
- steam, discussion of reports..... 174
- steam-nozzle, editorial..... 777
- steam, progress in..... 103
- steam, report of progress at the Bureau of Standards..... 106
- steam, report of progress in, at Harvard University..... 104
- steam, report on the Joule-Thomson effect.. work, A.S.M.E., gear-testing machine designed for..... 24
- Resuperheating in steam turbines, increase in thermal efficiency due to..... 455
- discussion on above paper..... 460
- REULEAUX, O..... 204
- RICHARDSON, H. C. Production airplanes of metal (D)..... 269
- RICHARDSON, M. B. Turbo-locomotives (D)..... 242
- RICHTER, H..... 590
- RICKETTS, EDWIN B. Review of book on industrial coal-purchase, delivery and storage..... 154
- RIDGWAY, ROBERT. The modern city and the engineer's relation to it..... 824
- RILEY, SANFORD, and CRAIG, OLLISON. The development of a unit pulverizer..... 1047
- Rivers, standard methods for rating..... 144
- Rivets, bolts and nuts, substantial progress made in standardization of..... 142
- quenched..... 510
- Road construction, labor-saving equipment in... 414
- ROBERTS, E. P. Pulverized fuel (D)..... 227
- ROBERTSON, MAJ. F. A. DEV..... 1149
- ROBINSON, ERNEST. Equipment used for aerial surveying..... 170
- Equipment used for aerial surveying (C)..... 303
- ROBSON, PHILIP W..... 586
- ROCKEFELLER, J. W., JR. Mechanical springs (D)..... 260
- Characteristics of weighing springs..... 1056
- ROCKWELL, STANLEY P. Hardness testers (D)..... 284
- ROGERS, FRANK H..... 354
- Interrelation of operation and design of hydraulic turbines..... 308
- Rohrbach all-metal flying boat..... 500
- Rolling mills, gear drives in..... 206
- Rolls-Royce overhead-valve engine..... 585
- ROSENHAIN, DR. WALTER..... 752
- Rotary machinery at very high speeds..... 669
- pumps, centrifugal and rotary, test code for..... 214
- Rotating cylinder, influence of, on an airplane wing..... 349
- disk (C)..... 224
- gear pinions, dynamic stresses in (C)..... 138
- Rotor, Savonius wing..... 911
- ship..... 584
- ship's trip to Scotland..... 230
- wing..... 849
- Rotoscope..... 936
- Rubber machinery, safety proposal for..... 1167
- Rules, slide, the making of special..... 1002
- Russia, Diesel-electric locomotive built for..... 212
- Rustproofing of materials..... 875
- Ruths steam accumulator..... 295, 619
- Safety code for aeronautics, note on the..... 1166
- code for elevators, dumbwaiters, and escalators..... 219
- code for paper and pulp mills, note on..... 1167
- code for walkway surfaces, note on..... 300
- code, logging and sawmill, available..... 58
- code, national electric, note on revision of... 512
- Congress, fourteenth annual at Cleveland... 950
- education, university fellowships offered for study of special problems in..... 677
- in engineering, the obligation of, editorial... 380
- in operation of pulverized-fuel systems..... 115
- place for..... 34
- Saguenay River, hydroelectric development of the, review of paper on..... 685
- Sailless ship..... 74
- SAINT-CLAIR, B. W. Springs for electrical measuring instruments..... 1057
- Salmon canning, mechanical features of..... 612
- SANKHY, CAPT. H. RIAL..... 591
- Saratoga meeting of the A.I.E.E..... 684
- SAVAGE, H. D..... 671
- Water-cooled furnaces..... 197
- Savage-Bramson anti-stall gear..... 849
- SAVENIUS. See SAVONIUS.
- SAVONIUS, SIGURD..... 849
- Savonius wing rotor..... 911
- SCHAEFER, A. O..... 674
- SCHNITZ, A. Lubrication (D)..... 114
- SCHLINK, F. J. Benefits to industry resulting from standardized practice..... 592
- Classification of engineering and industrial standards..... 119
- Engineering standards (D)..... 559
- SCHMIDT, H. F. Concerning supersaturation (C)..... 942
- SCHNEIDER, Eugene, elected to Academy of Sciences..... 520
- SCHRECK, H. Engineering standards (D)..... 557
- SCHULTE..... 849
- SCHWARTZ, H. A. Short-time malleableizing of cast iron..... 623
- SCHWEITZER, P. H. How much can be gained by exhaust turbines (C)..... 860
- Science, advancing..... 150
- applied, German Museum of, opened..... 775
- Museum, engineering at..... 663
- Scientific placement of young engineers (C)..... 770
- Scleron alloys..... 204
- SCOTT, FRANK A. A.S.M.E. pledges cooperation to new War secretaries, editorial..... 1170
- Scott Medal awarded to Charles H. Norton..... 689
- Scouting, long-range high-speed..... 1150
- Screw threads in U. S., standardization of, moves forward..... 1167
- threads used on valves of compressed-gas cylinders, standardization of..... 362
- Seuffed automobile-engine pistons..... 751
- Seabury, George Tilley, new secretary of A.S.C.E..... 73
- portrait of..... 73
- SEABURY, W. W. Centerless grinding (D)..... 943
- SEARS, JULIAN D. Engineers and the American petroleum situation..... 5
- Second law of thermodynamics, analysis of power-plant performance based on..... 426
- Sections, A.S.M.E., meetings of, editorial..... 226
- Sentinel-Cammell steam rail cars..... 856
- Separator, oil, for purifying ballast water discharged from ship-fuel-oil tanks..... 645
- Sewage-disposal plant, activated-sludge, at Milwaukee..... 837
- SEWARD, H. L. Graphical methods of calculation..... 1019
- SEYLER, CLARENCE A..... 1152
- Shaft, deflection at critical speed..... 724
- Shafts, reciprocating-engine, torsional vibrations in..... 930
- squaring ends of, Butler machine for..... 669
- Shale-oil, distillation plant, Trumble..... 581
- SHANER, E. L..... 510
- Shattered zones in rails..... 749
- SHAW, W. C. Logging machinery used on the Pacific coast..... 913
- SHEA, J. R. Trend of machine-tool design from the user's standpoint..... 306
- Sheet metal, simplified-practice recommendation on..... 144
- mills, gear drives in..... 206
- Sheffield University, department of fuel technology..... 1152
- SHELDON, E. E. Apprenticeship (D)..... 626
- Shenandoah (airship)..... 864
- SHEPARD, GEORGE H. Elimination of unnecessary fatigue in industry..... 418
- SHEPARD, JAMES A. Formulas for computing economies of labor-saving equipment (C)..... 61
- Progress in materials handling..... 1116
- SHEPARD, JAMES A., and HAGEMANN, GEORGE E. Formulas for computing the economies of labor-saving equipment..... 403
- SHEPARD, JAMES A., and LICHTENBERG, E. H. Labor-saving equipment in road construction..... 414
- Shields..... 937
- Ship, corrugated, Monitor type..... 294
- electric driving of..... 128
- fuel-oil tanks, an oil separator for purifying ballast water discharged from..... 645
- rotor..... 584
- sailless..... 74
- Shipping containers, scientifically developed... 979
- Shopping steam locomotives, factors concerning the economics of..... 419
- Short-time malleableizing of cast iron..... 623
- SHOUDY, W. A. and DENNY, R. C. Recent developments in the burning of anthracite.. 573
- Siddeley-Puma airplane engine..... 349
- SIEGLE, C. J. Steel-foundry management (D)..... 657
- SILCOX, D. E. Correction to Boyle's law for high-pressure gas..... 897
- SILCOX, L. K. Factors concerning the economics of shopping steam locomotives... 419
- SIMERAL, C. C. Boiler-room operation of wood-refuse-fired steam plants..... 550
- Simplified control methods in manufacturing... 334
- SIMPSON, MAJ. B. W..... 1155
- SINGH, N. Steel-foundry management (D)..... 657
- Sioux City Gas Co., feedwater system at..... 1156
- Sizes, an economic basis for..... 362
- Skin friction..... 210
- SKLOVSKY, MAX..... 584
- Slag inclusions in metal in relation to fatigue... 48
- Sleeve-valve engine, Lincoln..... 45
- Slide rules, making of special..... 1002
- Slip, recoverable, in tensile testing..... 201
- tire, tests of..... 48
- SMITH, ALBERT W. John Edson Sweet—the man..... 157
- SMITH, C. H., and FRANKLIN, L. J. Effect of inaccuracy of spacing on strength of gear teeth..... 29
- SMITH, EDWIN K. The need for cheaper hardness tests (C)..... 363
- SMITH, GEO. OTIS. Internal heat of the earth... 1176
- SMITH, H. L. H. Oil burning under steam boilers (D)..... 280
- SMITH, J. H..... 211
- SMITH, R. A. Engineering standards (D)..... 556
- SMITH, ROY H..... 510
- SMITH, DR. S. L..... 202
- Smoke prevention..... 856
- Smokeless fuel, Maclaurin process of making... 126
- SMOOT, C. H. Combustion control (D)..... 195
- 5 SNOOK, H. CLYDE..... 758
- Soda-ash process of water treatment..... 755, 1156
- Soft-coal problem..... 681
- Solid-injection oil engines..... 261
- Solomite..... 748
- Somerset Power station, on Taunton River, Mass..... 509
- SPARROW, S. W..... 291
- Specific heat-specific gravity-temperature relations of petroleum oils..... 535
- Specifications, Directory of, book review of... 955
- Standard, and Methods of Test for Materials, review of..... 690
- SPENCER, C. G. Boiler furnaces for pulverized coal (D)..... 636
- Sperry, Elmer A., elected to Academy of Sciences Diesel-electric locomotive (D)..... 648
- SPEYERER, DR. H..... 758
- Spinning and welding, closing tube ends by... 50
- Spiral-bevel-gear planing..... 854
- Spiro ball bearing..... 930
- SPITZGLASS, J. M. Combustion control (D)..... 196
- SPOONER, A. P. Defects of large forgings (D)..... 662
- SPRADO, C. G. Economy of gas-blowing engines. 651
- Spray method of cleaning machinery..... 752
- water, steam from..... 855



Spring injection in oil engines.....	853	pipings, nomogram for calculating.....	508	Submarine, America's biggest.....	203
Springs, commercial steel helical, manufacture of.....	1053	plants, auxiliary, hydroelectric systems with plants, boiler-room operation of wood-refuse-fired steam plants.....	352	Subterranean heat.....	1175
for electrical measuring instruments.....	1057	plants, parallel operation of hydro and steam plants.....	550	heat as a source of energy.....	1175
mechanical.....	258	-power engineering, progress in.....	727	heat, thermic calculation of.....	1177
mechanical, a code of design for.....	713	power plants, wood waste as fuel in.....	1123	SULLIVAN, A. C. Hog-fuel conveyors.....	553
weighing, characteristics of.....	1056	process, generation of, electric power as a by-product.....	545	Supercharged front-drive Alvis racer.....	507
SPROAT, A., and MALCOLM, V. T. X-Ray examination of steel castings (D).....	658	research, progress in.....	210	Supercharger, Berk.....	754
Sprockets and chains, transmission, standardization of.....	362	research, report of progress in at Harvard University.....	103	Superchargers.....	287, 355, 126
Spur gears, investigation of efficiency and durability of.....	874	research, report of progress at the Bureau of Standards.....	104	Supercharging at low speeds.....	126
STAFFORD, O. F. Wood waste (D).....	774	research, report on the Joule-Thomson effect superheated, regenerative feed heating by.....	106	Superpower stations and small power stations, fuel economy in.....	49
Standardization, advisory committee on.....	385	table for low pressures.....	107	Supersaturation (C).....	942
conference, Pan-American.....	361	table research fund, report of executive committee of the.....	174	editorial.....	863
engineering and industrial.....	58, 142, 222, 300, 361, 512, 592, 676, 769, 858, 939, 1166	-turbine and Diesel engine commercial efficiency.....	129	SUPLEE, W. P. Helicopters (D).....	268
industrial, developments in, during 1924.....	143	-turbine development, a review of.....	360	Surface abrasion and localized corrosion.....	35
in Japan.....	858	turbines, exhaust, how much can be gained by (C).....	103	Surface condenser, Ginabat.....	132, 294
in machine-shop industry.....	772	turbines, increase in thermal efficiency due to resuperheating in.....	506	Surveying, aerial, equipment used for.....	170
novelty of, editorial.....	948	discussion on above paper.....	800	aerial, equipment used for (C).....	303, 364
of machine tools.....	614	turbines, large.....	860	equipment, aerial,—helicopters—production of metal.....	266
of symbols used in formulas.....	148	turbines, test code for.....	455	Survey of Engineering Progress.....	41, 123, 201, 285, 349, 500, 580, 664, 747, 846, 927, 1149
to prevent conflagration.....	680	up to 800 deg. Fahr., rational design of covering for pipes carrying.....	460	SUTER, J. D. Aluminum and its light alloys (D).....	661
Standardized practice, benefits to industry resulting from.....	592	used by surface-condenser auxiliaries.....	186	Swaging process.....	583
Standardizing drafting-room practice, editorial.....	380	viscosity of.....	759	SWAIN, P. W. Sweden, taper shanks up for standardization in.....	939
Standard power-test codes, international.....	939	wagon, Atkinson.....	805	Sweet, John Edson,—the man.....	157
Specifications and Methods of Test for Materials, book review of.....	690	Steaming system, fireless.....	49	photograph of.....	157
Standards, approved American, presenting to Cleveland manufacturers.....	305	Steamship, high-pressure steam boilers for a.....	757	the life of, editorial.....	226
Bureau of, report of progress in steam research at the.....	106	Steel alloys, stainless or rustless type.....	129	Swiss federal railroads.....	359
classification of engineering and industrial.....	119	at highest working temperatures.....	856	Swope, Gerard, member of advisory committee on standardization.....	385
engineering.....	555	bridges, specifications for, before A.E.S.C. committee.....	1155	portrait of.....	385
for graphical presentation.....	676	bronze.....	48	Symbols and abbreviations committee organized.....	940
for malleable and cast-iron screwed fittings, proposed American.....	117	castings, X-ray examination of.....	122	standardization of those used in formulas.....	148
for shafting and keys, American, ready for distribution.....	939	chromium, flakes or hair cracks in.....	48	SYMONS, W. E. Turbo-locomotives (D).....	242
proposed, for commercial forms.....	300	construction, code of standard practice in.....	1155	Synchro-balance driving gear.....	47
proposed, for herringbone gears (C).....	140	corrosion of bars imbedded in concrete.....	122	Synopses of 1925 Annual Meeting papers not printed in Mid-November issue.....	1085
proposed, for herringbone gears (C).....	140	crucibles for thermit welding.....	364	of 1925 Spring Meeting papers not published in Part Two of the May issue.....	442
STANDFUS, E. Steel-foundry management (D).....	657	-foundry management.....	667	Synthol fuel.....	1151, 1152
STANTON, T. E.....	206	helical springs, manufacture of commercial.....	303		
STANWOOD, JAMES B. Tests of uniflow engine (D).....	844	melting in the cupola.....	749	<b>T</b>	
Stationary steam boilers, new A.S.M.E. power test code now available.....	141	reinforcing bars, only eleven sizes of, after January 1, 1925.....	143	TAFES, C. W. J.....	504
Steam accumulator.....	130, 295	structural, fireproofing of.....	653	TALBOT, H. H.....	206
accumulator, Ruths.....	619	structural, under alternating stresses.....	1053	TAMM, W.....	927
and hydro plants, the parallel operation of.....	727	Treating, American Society for, abstracts of papers presented before.....	501	TANGEMANN, W. W. Finishing small surfaces in the milling machine.....	307
bleeding and turbine performance.....	1144	Works, Employees' Representation in, book review of.....	144	Tangyes cold-starting oil engine.....	853
boilers, high-pressure, for a steamship.....	1155	STERN, W. J.....	257	Taper shanks up for standardization in Sweden.....	939
boilers, oil burning under.....	276	Stevens, John F., receives John Fritz medal.....	52	TAPSELL, H. J.....	665
boilers, review of recent applications of powdered coal to.....	19	STIMSON, H. F., and OSBORNE, N. S. Report of progress in steam research at the Bureau of Standards.....	916	Taunton River, Mass., Somerset power station on.....	509
-consumption tests on back-pressure turbine built by Brown, Boveri & Co., Ltd., Baden, Switzerland.....	915	STODOLA, A. Steam-consumption tests on a back-pressure turbine built by Brown, Boveri & Co., Ltd., Baden, Switzerland.....	690	TAYLOR, A. J. T., and WITTSTEIN, F. A. The Ruths steam accumulator.....	619
-driven displacement pumps, test code for reciprocating.....	135	Stoker, kiln, automatic.....	504	Taylor, Frederick W., review of biography on.....	153
engine, future of, note on.....	652	Stoker vs. pulverized coal.....	383	TAYLOR, H. B. Mechanical features of hydro-electric plants (D).....	83
engine, test of a Prosser-type reciprocating.....	249	Storage and handling of fuel oil in industrial plants.....	383	TAYLOR, R. P. A. Simplified control methods in manufacture (D).....	334
engineering in the U. S. A., German impressions of.....	674	Store-door delivery.....	106	TAYLOR, T. S.....	213
engines, commercial efficiency of internal-combustion and, for high-speed passenger vessels.....	506	Straffing, ground-, airplanes.....	915	TCHAYEFF, M.....	748
engines, testing, by the heat-balance method.....	672	STRAUB, A. A. Utilization of wood waste (D).....	204	Teaching personnel, engineering graduates and engineering.....	1181
from water spray.....	855	STRAUB, LEO. Hog fuel (D).....	586	Technical features of high-speed newsprint manufacture.....	495
-generating system, differential-pressure.....	507	Street congestion.....	272	training in industry.....	1095
generation under critical conditions.....	358	STREETER, ROBERT L., and FARAGHER, P. V. Aluminum and its light alloys.....	675	TRFFT, W. M. Parallel operation of hydro and steam plants.....	731
high-pressure and superheated.....	295	Closure to above paper.....	1149	Telephone poles to be standardized.....	218
locomotive, high-pressure.....	71	Stress distribution in crankshafts.....	773	Temperature, extreme, materials under, editorial.....	71
-locomotive design, the locomotive testing plant and its influence on.....	881	-strain curves and physical properties pertaining to hardness.....	774	measurement—preliminary draft of (Chap. 3 of code on instruments and apparatus).....	1161
locomotives, factors concerning the economics of shopping.....	419	Stresses, dynamic, in rotating gear pinions (C).....	758	of evaporation of water into air.....	327
logging.....	815	Stroboscope.....	433	scales and heat units, German law concerning.....	134
meter, new.....	752	Student, recognizing the exceptional, editorial.....	661	TEMPLETON, R. R. Conservation in the field, oil and gas (synopsis).....	651
motor cars.....	360	STURDEVANT, C. W.....	126	TRNNY, E. H. Pulverized coal at Cahokia.....	271
natural-, wells, at the Geysers, Cal.....	1176	STURNEY, A. C.....	917	Tensile testing, loops for different metals.....	201
-nozzles, pipe losses in.....	674	STYRI, HAAKON. General properties of ball bearings.....	138	Tension ratio and transmissive power of belts.....	1111
-nozzles research.....	777		936	Tentacular leather belting.....	127
oil engines in plants requiring.....	650		257	Test code for centrifugal and rotary pumps.....	214
pipes for extra high pressure and temperature.....	357		865	code for reciprocating steam-driven displacement pumps.....	135
pipings, elastic capacity as affecting expansion.....	131		1156	code for refrigerating systems.....	365
			752	code for steam turbines.....	750



code on instruments and apparatus (Chap. 21 on condenser-leakage tests).....	920
code on instruments and apparatus (Chap. 3 on temperature measurement).....	1161
of pulverized-fuel-fired boilers at the Lake Shore Station, Cleveland.....	25
Testing Materials, American Society for, annual meeting of the.....	686
Materials, American Society for, standards revised to 1924.....	58
new volume of tentative standards of, available.....	58
steam engines by heat-balance method.....	672
tensile.....	201
Tetraethyl gasoline, hazards of.....	519
of lead.....	598
Textile industry, application of engineering principles to economic problems in.....	274
mechanical engineering, progress in.....	1139
Thermal efficiency due to resuperheating in steam turbines, the increase in.....	455
discussion on above paper.....	460
Thermit welding.....	1160
Thermodynamics, second law of, analysis of power-plant performance based on.....	426
Thermonit mortar.....	580
THULENIUS, F. Oil engines as a drive for pipe lines.....	743
THOMA, DR. DIETER.....	285, 354
THOMAS, F. W. The place of railroad apprenticeship in a national apprenticeship plan.....	624
THOMPSON, PAUL W. Pulverized-coal burning at the Detroit Edison Company's Trenton Channel plant.....	271
THUM, E. E.....	581
Tidal power, editorial.....	864
Tide-power plant for Maine, note on.....	746
Tides, harnessing, Pinard-Sala system of.....	501
TIELKE, M. H. Indicating weights of castings on blueprints (C).....	859
TIMOSHENKO, S. Properties of matter under high pressure (C).....	513
Tire slip tests.....	48
Tolerance limits, measuring systems and.....	903
limits on drawings, method of indicating (C).....	302, 513
Tolerances, unilateral and bilateral, as applied to interchangeable manufacture.....	485
TOOMEY, W. A.....	591
Tool setting, jigs for.....	48
Tools, cutting, symposium on.....	504
lathe.....	505
machine, standardization of.....	614
setting, jigs for.....	48
sparkless, of bronze.....	44
Torsion, experiments in, machine for.....	511
Torsionmeter.....	504
Tractor, Russian Moto-Trud.....	670
six-wheeled.....	209
Trade-association activities clarified.....	599
foreign, coming conflict in.....	338
Traffic signals, work of standardizing colors for nearing completion.....	676
Train control, turbo-generators for.....	359
Training and education for the industries.....	94
for industry and the public program of vocational education.....	98
for the industries, education and, discussion of papers on.....	101
technical, in industry.....	1095
Transactions of first world power conference, review of.....	868
Transmission, angular, Bartlett.....	47
automobile.....	754
chains and sprockets, standardization of.....	362
and clutches, for the RS-1 semi-rigid airship.....	751
gear, fluid.....	672
Transportation, American.....	871
industry and the engineer.....	1093
in 1930.....	768
system, growth of a great.....	1097
transverse fissures, in rails.....	749
Trenton Channel Plant of Detroit Edison Company, pulverized-coal burning at the.....	271
TRIBE, JAMES. Tests of a uniflow engine (D).....	845
TRINKS, W. Industrial furnaces.....	1065
Oil burning under steam boilers (D).....	280
Trumble oil-shale cycle-distillation plant.....	581
TRUMP, E. N. Turbo-locomotives (D).....	242
Tube ends, closing by spinning and welding.....	50
Tube surfaces, water-, exposing, to flame.....	357

Tubes, boiler and condenser, corrosion of, and action of the hot wall.....	351
submarine.....	203
TUCKERMAN, L. B. Circular, cylindrical and spherical units of measurement (C).....	303
Hardness and hardness testing.....	53
Tungsten carbide.....	748
Turbine and boiler-room auxiliaries.....	188
back-pressure, steam-consumption tests by Brown, Boveri & Co., Ltd., Baden, Switzerland.....	915
designer's wind tunnel.....	13
development, Oak Grove high-head—Portland Electric Power Co.....	449
hydraulic, design, mechanical problems of.....	469
hydraulic, supplies.....	928
performance, steam bleeding and.....	1144
runners, pitting of.....	353
steam, development of, a review of.....	800
super high-speed.....	669
Turbines and superchargers, exhaust-gas.....	354
exhaust gas, and superchargers.....	355
exhaust-steam, how much can be gained by (C).....	860
gas.....	462
gas and oil.....	45, 668
hydraulic, for New Zealand.....	928
hydraulic, high-specific-speed.....	285
hydraulic, high-speed suction.....	287
hydraulic, operation and design of.....	353
hydraulic, propeller-type.....	285
impulse, true efficiency of.....	589
on locomotives.....	757
steam, increase in thermal efficiency due to resuperheating in.....	455
discussion on above paper.....	460
steam, large.....	186
steam, test code for.....	759
Turbo atomizer, Knecht.....	931
-compressors, design of.....	288
-electric locomotive, Ramsay condensing.....	235
-generators for train control.....	359
-generators, water-rate tests.....	857
TURNBULL, W. F. Education and training for the industries (D).....	101
Turning and planing, investigations in.....	474
TURNWALD, W. Test of a Prosser-type reciprocating steam engine (D).....	253
Turret lathe, full-automatic, economic efficiency of the, in comparison with the semi-turret lathe.....	411
lathe, increasing capacity by use of offset chuck.....	127
TWOGOOD, R. S.....	1156
TYLER, CHAPLIN.....	357

U

Unfired pressure vessels, modification in report on code for.....	57
Uniflow and compound duoflow engines.....	191
engine, Atkinson steam wagon with.....	129
engine, test of a.....	440
engine, tests of a, discussion on.....	844
Unilateral and bilateral tolerances as applied to interchangeable manufacture.....	485
Union Station in Chicago, power facilities at.....	755
Unit coal-pulverizing plant and its operation.....	183
pulverizer, the development of a.....	1047
United Engineering Society report for 1924.....	231
Unity of our country, influence of the locomotive upon the.....	1103
UNWIN, DR.....	935
Uplift effect in cutting tools.....	504
Upsetting machine.....	289
UPTON, G. B. Critical bearing pressures (C).....	942
U. S. Navy aircraft, power plants for.....	783
U. S. Navy and aviation.....	670
U. S. S. Dobbin.....	1155
U. S. S. Whitney.....	1155

V

Vacuum pump, steam-jet condensing-type.....	211
Valve and fitting industry, metallurgical developments in the.....	1141
Valve gear, Imperia automobile engine valve gear.....	936
hydraulic, Homeyard.....	581

standardization postponed.....	361
Valves of compressed-gas cylinders, standardization of threads used on.....	362
VAN BRUNT, JOHN. Safety in the operation of pulverized-fuel systems (D).....	115
VAUGHAN, J. F. Mechanical features of hydroelectric plants (D).....	831
Parallel operation of hydro and steam plants (D).....	731
Vehicular tunnel claims another victim.....	386
Velocity in measurements of water flow.....	582
Vernon.....	351
Vertical triple-expansion pumping engines, Milwaukee, Wis., duty tests of.....	841
Vessels, passenger, high-speed, commercial efficiency of internal-combustion and steam engines for.....	506
walls of, bursting forces acting on.....	209
Vevey, Ateliers de Construction Mécaniques de.....	285
Veyrier, Commander J.....	203
Vibration, crankshaft, generator problems due to.....	793
Vibrations, instrument for recording.....	907
torsional, in reciprocating-engine shafts.....	930
Vickeen centrifugal oil separator.....	905
Viscosity of liquids under pressure.....	1155
of water vapor.....	757
Vitrain.....	750
Vocational education, training for industry and the public program of.....	98
schools in the district apprenticeship plan, the place of.....	625
Volcanism as sources of power, a comparative study of the various forms of.....	1178
VOORHEES, G. T. Flow of liquids (D).....	334
VOSE, M. E. Pulverized fuel (D).....	227

W

WADD, R. J. Economic efficiency of the full-automatic turret lathe in comparison with the semi-turret lathe.....	411
Wages and waste.....	512
WALKER, H.....	1154
Walkway surfaces, safety code for, note on.....	300
Wall construction, masonry, recommended minimum requirements for.....	677
hot, action of the, corrosion of boiler and condenser tubes and.....	351
WALLACE, L. W. Patent office administration and housing.....	1172
Patent office procedure.....	949
WALSTAD, A. N. Wood waste (D).....	775
War aircraft, production of.....	500
construction engineers vindicated, editorial.....	226
secretaries, A.S.M.E. pledges cooperation to new.....	1170
WARNER, E. P. Helicopters (D).....	267
The United States air-mail service.....	148
WARREN, G. B. Turbo-locomotives (D).....	240
WARREN, G. B., and BLOWNEY, W. E. The increase in thermal efficiency due to resuperheating in steam turbines.....	455
WARRINER, R. Oil burning under steam boilers (D).....	278
Waste, elimination of national.....	36
-heat recovery.....	857
wood, the utilization of, as fuel in steam-power plants.....	545
Water-cooled furnaces.....	197
cooling-, evaporator.....	931
flow, velocity in measurements in.....	582
-rate tests.....	857
spray, steam from.....	855
treatment, lime and soda ash method.....	1156
treatment on railroads.....	1156
-tube surfaces, exposing to flame.....	357
vapor, properties of.....	123, 757
"Watermota" outboard marine engine.....	1155
Watt's garret workshop, note on.....	814
Weighing springs, characteristics of.....	1056
WEIGHTMAN, HUGH E.....	1151
Weights of castings on blueprints, indicating (C).....	223
should be indicated in blueprints when asking for estimates on casting (C).....	62
WHEISS, E. H.....	293
Weld, center-pour.....	1160
Welded pipe, hammer.....	133
Welding all-steel automobile bodies.....	1160
gas, of power-plant piping.....	1159
closing tube ends by.....	50

- on boilers..... 1148  
thermit..... 1160  
Welds, fatigue of..... 794  
WELLS, R. G. Simplified control methods in manufacture (D)..... 334  
WETTSTEIN, F. A., and TAYLOR, A. J. T. The Ruths steam accumulator..... 619  
Weymouth power station, mechanical design of... 719  
Whaley oil engine..... 851  
WHEELER, R. V..... 1152  
WHITE..... 852  
WHITE, A. E. Defects of large forgings (D)..... 663  
X-Ray examination of steel castings (D)..... 659  
WHITE, WILLIAM BRAID. Intelligent wood conservation, editorial..... 863  
Progress in the wood industries as related to mechanical engineering..... 1137  
WHITE, W. M..... 352  
Mechanical features of hydroelectric plants (D)..... 831  
Mechanical problems of hydraulic-turbine design..... 469  
Operation of hydroelectric systems..... 308  
Parallel operation of hydro and steam plants (D)..... 731  
WHITMORE, H. L. The need for cheaper hardness tests (C)..... 223  
WICKES, P. A. Electric logging..... 820  
WIDELL, M. E. Methods of indicating tolerance limits on drawings (C)..... 302  
WILEY, E. C. Fuel oil, its supply and efficient use (synopsis)..... 649  
Wiley, Major William H., dies..... 522  
WILL, HERMAN. Mechanical features of hydroelectric plants (D)..... 831  
WILLIAMS, J. H. Simplified control methods in manufacturing (D)..... 336  
WILLIAMS, L. W. Engineering standards (D)... 558  
WILLIAMSON, J. M..... 203  
WILSON, E. E. Power plants for U. S. Navy aircraft..... 783  
WILSON, JOHN A. Activated-sludge sewage-disposal plant at Milwaukee..... 837  
WILSON, THOS. A..... 591  
Wind mill, aerodynamo..... 580  
-power plants, German..... 849  
tunnel, turbine designer's..... 13  
Wing, influence of a rotating cylinder on a... 349  
rotor..... 849  
rotor, the Savonius..... 911  
slotted, Handley-Page..... 349  
WINTZER, RANDOLPH. Tests of a uniflow engine (D)..... 845  
Wire-drawing machine..... 673  
rope, specifications for, note on..... 676  
ropes, strength of..... 206  
WIRT, H. LORING. The turbine designer's wind tunnel..... 13  
WOHLBERG, W. J. Boiler furnaces for pulverized coal (D)..... 636  
Pulverized coal (D)..... 822  
WOHLBERG, W. J., and MORROW, D. G. Radiation in the pulverized-fuel furnace.... 627  
WOLFF, DR. IR. E. B..... 349  
WOLFF, JOHN. Test of pulverized-fuel-fired boilers at the Lake Shore Station, Cleveland..... 25  
WOOD, JOSEPH KAYE. A code of design for mechanical springs..... 713  
Book review of Principles of Machine Design..... 955  
Mechanical springs..... 258  
WOOD, ROBT. F..... 581  
WOOD, WM. P. Bolts for use in power-plant construction..... 1034  
conservation, intelligent, editorial..... 863  
Wood industries, progress in, as related to mechanical engineering..... 1137  
lot, the nation's, editorial..... 71  
-refuse-fired steam plants, boiler-room operation of..... 550  
-treating process, new..... 270  
waste as fuel in steam-power plants..... 545  
waste, combustion of, from lumber-manufacturing plants..... 545  
WOOLSON, L. M..... 351  
Worcester Polytechnic Institute, Captain Ralph Earle becomes president of..... 1174  
Work, least, principle of..... 753  
WORKER, JOS. G..... 587  
Pulverized fuel (D)..... 229  
World economic situation..... 745  
power conference, transactions of first, review of..... 869  
Wrench-head bolts and nuts and wrench openings, report on..... 939  
Wrought iron, new processes for making..... 1113  
WYGODSKY, LEON. Oil and gas power..... 650  
Wynau Electricity Works..... 285
- ## X
- X-ray examination of steel castings..... 393
- ## Y
- Y-alloy (aluminum)..... 1151  
YOUNG, C. L. Settings for hog-fuel-burning boilers..... 552  
YOUNG, L. H. An instrument for recording vibrations..... 907  
YOUNGER, JOHN E. A chart for determining the weight of moist air..... 492
- ## Z
- Zeolite method (water treatment)..... 1156  
Zermatt power station..... 928  
ZIMMERMAN, C. D. Steam bleeding and turbine performance..... 1144

645  
351

74  
53  
87  
29  
45

69

39  
13  
50  
85

93

51

52

07

92

56

28

44